DEPARTMENT OF THE NAVY
JUSTIFICATION OF ESTIMATES
FOR FISCAL YEAR 1988/1989

SUBMITTED TO CONGRESS JANUARY 1987

PROCUREMENT

AIRCRAFT PROCUREMENT, NAVY

Department of the Navy
Aircraft Procurement, Navy
Justification of Estimates for Fiscal Year 1988 and Fiscal Year 1989

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These estimates pertain to

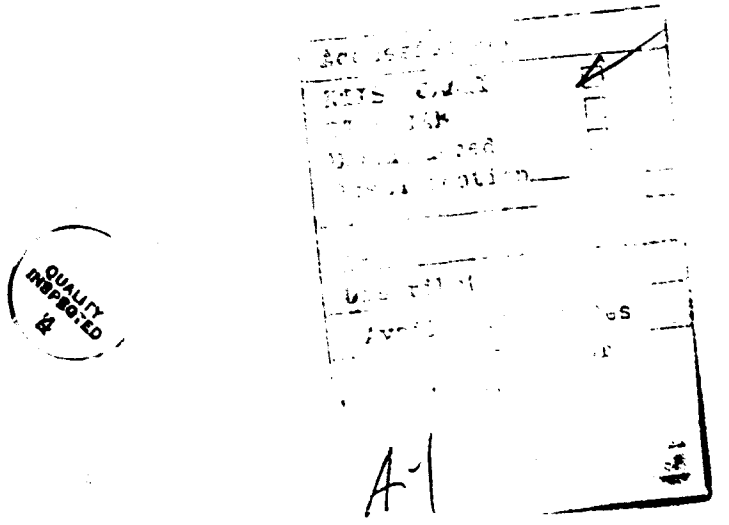
AIRCRAFT PROCUREMENT, NAVY

For construction, procurement, production, modification, and modernization of aircraft, equipment, including ordnance, spare parts, and accessories therefor; specialized equipment; expansion of public and private plants, including the land necessary therefor, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title; and procurement and installation of equipment, appliances, and machine tools in public and private plants; reserve plant and Government and contractor-owned equipment layaway; $9,924,883,000, of which $89,100,000 shall be available only for the Navy Reserve and Marine Corp Reserve, to remain available for obligation until September 30, 1990. Further, for the foregoing purposes, $10,250,270,000, of which $95,600,000 shall be available only for the Navy Reserve and Marine Corps Reserve, to become available for obligation on October 1, 1988 and to remain available for obligation until September 30, 1991. (10 U.S.C. 5013, 5063, 7201, 7341; Department of Defense Appropriation Act, 1987, as included in Public Laws 99-500 and 99-591, section 101(c); additional authorizing legislation to be proposed.)

(Expends: ...) Exp proven FY

Financing

The FY 1988 budget plan of $9,924,883,000 for the Aircraft Procurement, Navy appropriation is to be financed by new obligational authority. The FY 1989 budget plan of $10,250,270,000 will also be financed by new obligation authority.



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Aircraft Procurement, Navy
Program and Financing (in thousands of dollars) SUMMARY

05 Jan 87

Identification code 17 1506 0 1 051	Budget Plan (amounts for PROCUREMENT actions programed) 1986 actual	1987 est	1988 est	1989 est	Obligations 1986 actual	1987 est	1988 est	1989 est
Program by activities:								
Direct program								
00 0101 Combat aircraft	5,770,486	5,857,888	6,449,226	6,922,602	5,762,097	5,217,644	8,209,223	6,843,511
00 0201 Airlift aircraft	221,851	98,880	5,776	7,781	209,355	101,044	34,546	12,905
00 0301 Trainer aircraft	133,806	55,216	358,210	403,466	198,614	87,958	293,760	374,878
00 0401 Other aircraft	442,251	317,545	369,443	370,842	506,978	264,488	340,696	367,405
00 0501 Modification of aircraft	1,654,597	1,397,535	668,554	667,017	1,180,901	1,845,773	965,424	689,194
00 0601 Aircraft spares and repair parts	1,156,784	1,632,215	1,511,913	1,270,957	1,181,221	1,733,865	1,521,537	1,790,233
00 0701 Aircraft support equipment and facilities	691,059	617,983	561,761	607,605	628,539	632,241	579,077	600,434
00 0101 Total direct program	10,071,234	9,977,262	9,924,883	10,250,270	9,667,705	9,883,013	9,943,763	10,178,560
01 0701 Reimbursable program	13,969	1,500	1,545	1,591	97	27,675	1,545	1,591
10 0001 Total	10,085,203	9,978,762	9,926,428	10,251,861	9,667,802	9,910,688	9,945,308	10,180,151
Financing:								
Offsetting collections from:								
11 0001 Federal funds( )	-13,381	-1,000	-1,030	-1,061	-12,294	-1,000	-1,030	-1,061
14 0001 Trust funds( )	-467	-500	-515	-530	1,231	-500	-515	-530
14 0001 Non Federal sources( )	-921				-115			
17 0001 Recovery of prior year obligations					-28,831			
Unobligated balance available, start of year:								
21 4002 For completion of prior year budget plans					-2,847,715	-2,832,609	-2,900,683	-2,881,803
21 4001 Available to finance new budget plans	-576,400	-620,550			-576,400	-620,550		
21 4002 Reprogramming from/to prior year budget plans	-458,545							
22 4001 Unobligated balance transferred to other accounts	548,286	41,650			548,286	41,650		
22 4001 Unobligated balance rescinded: Appropriation		578,900				578,900		
23 4002 Reduction pursuant to P.L. 99-177 in unob bal: Apn	167,042				167,042			
Unobligated balance available, end of year:								
24 4002 For completion of prior year budget plans					2,832,609	2,900,683	2,881,803	2,953,513
24 4001 Available to finance subsequent year budget plans	620,550				620,550			
25 0001 Unobligated balance lapsing	123,817				123,817			
40 0001 Budget authority	10,495,984	9,977,262	9,924,883	10,250,270	10,495,984	9,977,262	9,924,883	10,250,270
Budget authority:								
40 0001 Appropriation	10,628,070	9,977,262	9,924,883	10,250,270	10,628,070	9,977,262	9,924,883	10,250,270
41 0001 Transferred to other accounts(-)	-132,086				-132,086			
43 0001 Appropriation (adjusted)	10,495,984	9,977,262	9,924,883	10,250,270	10,495,984	9,977,262	9,924,883	10,250,270
Relation of obligations to outlays:								
71 0001 Obligations incurred, net					9,656,824	9,909,188	9,943,763	10,178,560
72 4001 Obligated balance, start of year					15,129,214	15,741,344	16,132,832	16,670,395
74 4001 Obligated balance, end of year					-15,741,344	-16,132,832	-16,670,395	-17,384,755
77 0001 Adjustments in expired accounts					-94,024			
78 0001 Adjustments in unexpired accounts					-28,831			
90 0001 Outlays					8,921,840	9,517,700	9,406,200	9,464,200

Aircraft Procurement, Navy
Object Classification (in Thousands of dollars) SUMMARY

05 Jan 87

Identification code 17 1506 0-1 051	1986 actual	1987 est.	1988 est.	1989 est
Direct obligations:				
Other services:				
125 002 Purchases from industrial funds	36,500	37,405	37,540	9,850
126 001 Supplies and materials	1,181,434	1,210,723	1,215,091	1,243,863
131 001 Equipment	8,449,771	8,634,885	8,691,132	8,924,847
199 001 Total direct obligations	9,667,705	9,883,013	9,943,763	10,178,560
Reimbursable obligations:				
231 001 Equipment	97	27,675	1,545	1,591
299 001 Total reimbursable obligations	97	27,675	1,545	1,591
999 001 Total obligations	9,667,802	9,910,688	9,945,308	10,180,151

Budget Activity 1: Combat Aircraft

(In Thousands)
FY 1989 Estimate - $6,922,602
FY 1988 Estimate - $6,449,226
FY 1987 Estimate - $5,857,888
FY 1986 Actual - $5,770,486

Purpose and Scope of Work

Navy and Marine Corps combat aircraft are procured under this budget activity. These aircraft include fixed-wing and rotary configurations and are grouped generally into the categories of attack, fighter, and anti-submarine warfare (ASW). In addition to these general categories, aircraft which directly support combat operations in specialized missions, such as aerial assault, command and control, search and rescue, reconnaissance, observation, electronic warfare, airborne mine countermeasures, vertical onboard delivery and early warning are also procured in this budget activity. Funds are budgeted to procure fully equipped aircraft, including engines and avionics equipment, special ground support and training equipment, and technical publications.

Advance procurement funds are also included to finance long lead time effort, materials, and equipments for the following year program, as well as for multiyear procurement of the CH/MH-53E airframe.

Justification of Funds

Funds for procurement of eleven different combat aircraft models, including two attack, one fighter, one strike fighter, four helicopters, one electronic warfare, one early warning type, and one special mission aircraft are budgeted in FY 1988 and FY 1989. Funds are also included in this budget request for FY 1988 advance procurement requirements for aircraft scheduled for procurement in FY 1989 including requirements continuation of a multiyear procurement and for support of two aircraft procured in previous years. FY 1989 advance procurement funds in support of FY 1990 procurements include long lead requirements for a vertical take off and landing aircraft. Support requirements for the same two previously procured aircraft are also requested. The amounts shown below finance: (1) aircraft procurement; (2) advance procurement which is justified separately at the end of the budget activity; and (3) aircraft initial spares and repair parts which are budgeted and justified in budget activity 6.

A-6E/F (Attack) INTRUDER

(Dollars in Millions)

	FY 1988		FY 1989	
	Qty	Amt	Qty	Amt
Procurement	12	702.2	18	702.7
Advance Procurement		109.9		137.0
Initial Spares		41.1		50.0

The A-6E is a highly effective attack aircraft. It is equipped with the Target Recognition Attack Multisensor (TRAM) system which gives the A-6E the capability of very accurate night/all weather delivery of nuclear and non-nuclear weapons as well as a night surveillance and identification capability. The A-6F is an improved version of the A-6E which incorporates improvements in reliability, performance and survivability through improved avionics and propulsion.

A-6E/F (Attack) INTRUDER cont'd

The A-6F incorporates the following improvements: a high resolution radar for improved standoff targeting, higher thrust engines, modern digital avionics, and minor airframe changes. Pilot production begins in FY 1988 with full production scheduled for FY 1990. The FY 1988 request of $702.2 million provides for procurement of twelve upgraded A-6F aircraft for the Navy and Marine Corps. In FY 1989, $702.7 million is requested for procurement of eighteen A-6F aircraft.

EA-6B (Electronic Warfare) PROWLER

	(Dollars in Millions)			
	FY 1988		FY 1989	
	Qty	Amt	Qty	Amt
Procurement	6	336.1	9	470.8
Advance Procurement		17.8		18.2
Initial Spares		3.5		18 3

The carrier-based EA-6B is an advanced electronic warfare (EW) aircraft which provides protection to Navy strike aircraft by jamming enemy radar-controlled weapons. Funding of $336.1 million for six aircraft is requested in FY 1988, and $470.8 million is requested for nine more in FY 1989. This continues the procurement of modern tactical EW aircraft for the Navy and Marine Corps.

AV-8B (Attack) HARRIER

	(Dollars in Millions)			
	FY 1988		FY 1989	
	Qty	Amt	Qty	Amt
Procurement	32	564.2	32	655.9
Advance Procurement		64.0		33.5
Initial Spares		71.5		47.2

The AV 8B is an improved vectored thrust V/STOL aircraft based on the AV-8A concept and the Pegasus II engine which has up to twice the range or payload of the older HARRIER. It combines aerodynamic improvements with a new stability augmentation system to reduce pilot workload and incorporates the Angle Rate Bombing System for increased weapon delivery accuracy, thus providing a more capable and reliable light attack aircraft. The AV-8B meets the Marine Corps' requirement for a light attack aircraft which can operate from austere forward sites in direct support of ground forces.

The FY 1988 request of $564.2 million and the FY 1389 request of $655.9 million is for 32 aircraft each year to continue to build up the inventory level to support Marine air groups.

F-14A/D (Fighter) TOMCAT

	(Dollars in Millions)			
	FY 1988		FY 1989	
	Qty	Amt	Qty	Amt
Procurement	12	676.8	12	790.3
Advance Procurement		84.3		137.2
Initial Spares		68.0		30.6

F-14A/D (Fighter) TOMCAT cont'd

The F-14A is a high performance, fleet air defense/air superiority fighter. It is a two-place, tandem seat, variable sweep wing, supersonic, carrier-based airborne weapons system. The F-14A has visual attack and all-weather capability to deliver PHOENIX and SPARROW missiles using the AN/AWG-9 weapons control system. It also employs the M-61 gun and SIDEWINDER missiles for close-in air-to-air combat. FY 1986 and subsequent F-14A+ aircraft will incorporate the new General Electric F-110-GE-400 engine selected by the Secretary of the Navy to replace the TF-30 engine. This is an interim configuration. The F-14D will include the new GE engine, plus a new radar (APG-71) and upgraded avionic systems. Procurement of the F-14D will commence with the last seven aircraft in the FY 1988 buy. The FY 1988 budget request includes $676.8 million for procurement of 5 F-14A+ aircraft, and 7 F-14Ds. $790.3 million is required to procure 12 aircraft in FY 1989, all F-14Ds. This will continue an orderly Navy fighter modernization program and maintain fighter force levels.

F/A-18 (Strike Fighter) HORNET

	(Dollars in Millions)			
	FY 1988		FY 1989	
	Qty	Amt	Qty	Amt
Procurement	84	2,316.6	72	2,134.5
Advance Procurement		156.0		138.3
Initial Spares		107.6		67.4

The F/A-18 Naval Strike Fighter is a twin-engine, mid-wing, multimission tactical aircraft. Designed to replace the F-4 PHANTOM and A-7 CORSAIR, the F/A-18 will be employed in Navy Strike Fighter squadrons and Marine Strike Fighter squadrons. Two-seat versions are being built, and the plan includes versions for tactical reconnaissance, Marine tactical aircraft coordinator airborne role, and an austere all-weather capability. The F/A-18 is missionized through selected use of external equipment to accomplish specific fighter or attack missions. This commonality offers the Operational Commander more flexibility in employing his tactical aircraft in changing scenarios. The primary design missions are fighter escort and interdiction with fleet air defense and close air support as additional roles. Since on attack missions the same airframe, engine, flight control, and weapon systems are used as on fighter missions, excellent fighter and self defense capability is retained. The FY 1988 budget includes $2,316.6 million for the procurement of 84 aircraft for Navy and Marine Corps Squadrons. $2,134.5 million is requested to procure 72 aircraft in FY 1989.

CH/MH-53 (Helicopter) SUPER STALLION (MYP)

	(Dollars in Millions)			
	FY 1988		FY 1989	
	Qty	Amt	Qty	Amt
Procurement	14	210.7	14	193.8
Advance Procurement		21.8		9.6
Initial Spares		22.6		15.5

The FY 1988/1989 budget includes continued procurement of the CH/MH-53E helicopter, a shipboard compatible, heavylift transpor helicopter configured for both Marine and Navy missions. Marine missions include amphibious/heliborne assault providing lift and movement of cargo and troops, and heavylift shore operational requirements including tactical recovery of downed or damaged aircraft and equipment. Navy missions include vertical onboard delivery (VOD) and airborne mine countermeasures (AMCM). Production of the MH-53, a multi-mission variation of the CH-53E, commenced in FY 1985. The MH-53E has significantly enhanced AMCM capability over the presently deployed RH-53D. AMCM associated improvements also enhance the aircraft's capability to perform utility and special missions by significantly increasing range and navigation capability. Several MH developed aircraft improvements will be incorporated in the CH version of the 53E helicopter beginning in FY 1987. Fourteen aircraft are included in both FY 1988 and 1989 budget requests. The CH/MH-53 airframe is a multiyear procurement beginning with the FY 1985 advance procurement for the FY 1986 lot and continuing through FY 1989 at a savings of $92.8 million.

V-22 (VTOL) OSPREY

	(Dollars in Millions) FY 1988 Qty	Amt	FY 1989 Qty	Amt
Advance Procurement		-		338.2

The V-22 OSPREY is a Department of the Navy procurement of a tilt-rotor, vertical take off and landing aircraft developed for Joint Service application. The V-22 program will provide an aircraft to meet the amphibious/vertical assault needs of the Marine Corps, the combat search and rescue (CSAR) needs of the Navy, and Army and Air Force requirements.

AH-1W (Helicopter) SEA COBRA

	(Dollars in Millions) FY 1988 Qty	Amt	FY 1989 Qty	Amt
Procurement	22	172.7	12	86.8
Initial Spares		5.3		-

The AH-1W helicopter is an improved version of the Marine AH-1J, which incorporates an uprated twin-pack engine (T700-GE-401) for increased performance, reliability and hot day performance. It has a TOW missile capability, a 20mm nose-mounted turret gun, a wing stores armament management system for selective release of externally carried weapons and a HELLFIRE missile system. The improved SEA COBRA is 58 feet in overall length and the rotor diameter is 48 feet. Maximum take-off weight is 14,000 pounds. The AH-1W mission is escort and protection of troop assault helicopters, landing zone preparation immediately prior to the arrival of assault helicopters, landing zone fire suppression during the assault phase, and fire support during ground escort operations. The FY 1988 budget requests $172.7 million for the procurement of 22 aircraft to build up the inventory level . The FY 1989 request includes $86.8 million for 12 aircraft to complete the program.

SH-60B (Anti-Submarine Warfare Helicopter) SEAHAWK

	(Dollars in Millions) FY 1988 Qty	FY 1988 Amt	FY 1989 Qty	FY 1989 Amt
Procurement	6	98.7	6	92.0
Advance Procurement		26.3		20.9
Initial Spares		18.6		10.6

The SH-60B SEAHAWK is the air sub-system of the Light Airborne Multi-Purpose System (LAMPS) MK III ship/air weapon system. LAMPS MK III is a computer integrated ship/helicopter system that increases the effectiveness of combatants for Anti-Submarine Warfare (ASW). The helicopter provides a remote platform for deployment of sonobuoys and torpedoes, processing of acoustic and magnetic anomaly detection sensor information, and an elevated platform for radar and electronic warfare support measures. The ship provides sensor processing, command and control, integration of LAMPS information gained from other sensors, the landing and traversing system, visual landing aids, and maintenance and support facilities for the aircraft. SH-60B secondary missions include anti-ship surveillance and targeting, search and rescue, vertical replenishment, medical evacuation and communications relay. The SH-60B carries a crew of three, approximately 2,000 lbs of mission avionics, and has provisions for sonobuoys and MK-46 torpedoes. The SH-60B has a mission gross take-off weight of about 20,000 lbs. $98.7 million in FY 1988 is requested for the procurement of 6 helicopters, and $92.0 million is requested for procurement of 6 helicopters in FY 1989.

SH-60F (Helicopter) CV ASW HELO

	(Dollars in Millions) FY 1988 Qty	FY 1988 Amt	FY 1989 Qty	FY 1989 Amt
Procurement	18	279.7	18	312.6
Advance Procurement		29.6		30.6
Initial Spares		20.6		23.7

The SH-60F CV ASW Helicopter provides carrier battles groups with inner zone ASW protection using manned helicopters with dipping sonar and an on-board sonobuoy processor. Second missions will include search and rescue, logistic support, medical evacuation and plane guard. The ultimate users are HS squadrons and CV class ships. Funds totalling $279.7 million in FY 1988 are requested to procure eighteen aircraft carrier inner zone anti-submarine warfare helicopters which are needed to modernize aging carrier assets and upgrade the carrier battle groups' ASW capability. $312.6 million is requested for an additional eighteen aircraft in FY 1989.

P-3C (Patrol) ORION

	(Dollars in Millions) FY 1988 Qty	FY 1988 Amt	FY 1989 Qty	FY 1989 Amt
Procurement	-	.1	-	29.8
Advance Procurement		-		14.7
Initial Spares		3.4		3.4

The P-3C aircraft is a land-based, four-engine, turboprop patrol aircraft. Its primary mission is anti-submarine warfare (ASW): to detect, classify, track, localize, and destroy submarines; to conduct long range barrier patrols, to escort convoys, and to conduct hunter-killer operations in all weather conditions. Secondary missions are aerial mining, maritime surveillance, shipping destruction, and intelligence collection.

The P-3C ASW systems include data processing, radar, infrared detection set (IRDS), HARPOON, sonobuoy referencing system (SRS), electronic support measures (ESM), and magnetic anomaly detection (MAD) equipment. The tactical system includes integrated displays and an inertial doppler navigator. The central digital computer has the data handling capacity and flexibility to thoroughly integrate sensor, display, navigation, communications, and armament equipment information. No FY 1988 or FY 1989 production is planned, however $.1 million is requested in FY 1988 for support and $29.8 million is requested in FY 1989 to fund P-3C line shutdown costs and support.

EX Competition

	(Dollars in Millions) FY 1988 Qty	FY 1988 Amt	FY 1989 Qty	FY 1989 Amt
Procurement	8	179.8	8	234.5
Initial Spares		6.9		5.3

The FY 1988 and FY 1989 budgets include $179.8 and $234.5 million to conduct a competitive procurement of electronic warfare aircraft to replace the aging EA-3B and the start of a phased program for mission equipment procurement.

E-2C (Early Warning) HAWKEYE

	(Dollars in Millions) FY 1988 Qty	FY 1988 Amt	FY 1989 Qty	FY 1989 Amt
Procurement	6	370.2	6	305.3
Advance Procurement		30.0		30.7
Initial Spares		27.1		18.2

The E-2C is a carrier-based airborne early warning/command and control system designed for fleet air defense. Additionally, it provides the battle group commander with a strike control and surveillance capability. The E-2C has the same airframe as earlier models but is equipped with new avionics equipment, including a new radar antenna and passive detection system. This equipment provides an improved capability, including overland detection of air targets. A major feature of the system is the greatly enhanced reliability over previous models. All FY 1987 aircraft will be configured with the new T-56-A-427 engine. Six E-2C aircraft at a cost of $370.2 million are scheduled for procurement in FY 1988. The FY 1989 request is for procurement of six E-2C aircraft at a cost of $305.3 million.

SH-2F (Helicopter) SEASPRITE

	(Dollars in Millions)			
	FY 1988		FY 1989	
	Qty	Amt	Qty	Amt
Procurement	-	1.6	-	4.3

The SH-2F is a two-place, twin-engine helicopter with a single main-lift rotor and anti-torque tail rotor. It is the air subsystem of the LAMPS MK I weapons system, deployed aboard FF1040, FF1052 and unmodified FFG-7 class frigates for anti-submarine warfare. The SH-2F has secondary missions that include search and rescue, medical evacuation, and communications relay. No procurements are planned beyond FY 1987; however, the FY 1988 budget includes $1.7 million for annualized production line shutdown and follow on support requirements. $4.3 million is requested in the FY 1989 budget for similar requirements.

Advance Procurement

The FY 1988 budget request includes $539.7 million for advance procurement of material and effort for FY 1989 and for multiyear procurement associated with the CH/MH-53E airframes. Requirements for FY 1989 advance procurement totalling $909.2 million in support of FY 1990 programs are also reflected. An itemization of the requirements follows:

(Dollars in millions)	FY 1989		FY 1990	
Aircraft Model	A/C Qty	A. P. in FY 88	A/C Qty	A. P. in FY 89
A-6E/F	18	$109.9	24	$137.0
EA-6B	9	17.8	9	18.2
AV-8B	32	64.0	15	33.5
F-14 A/D	12	84.3	19	137.2
F/A-18	72	156.0	72	138.6
CH/MH-53 (MYP)	14	21.8	4	9.6
V-22	-	-	12	338.2
SH-60B	6	26.3	6	20.9
SH-60F	18	29.6	18	30.6
P-3C	-	-	4	14.7
E-2C	6	30.0	6	30.7

The advance procurement listed is required to ensure timely delivery of the planned FY 1989 and FY 1990 aircraft. The amounts budgeted for Contractor Furnished Equipment (CFE) items, engines and some major Government Furnished Equipment (GFE) items are required for long leadtime effort and material for the prime contractor and their vendors. This includes items such as castings, forgings, landing gear and production engineering requirements. For most GFE, requirements are calculated for each item of equipment, considering the planned aircraft quantity, production leadtime, and prime contractor installation leadtime (i.e., the amount of time the item is needed at the factory prior to aircraft delivery). Certain equipment, primarily avionics items, are budgeted as advance procurement to ensure meeting planned aircraft production schedules. The CH/MH-53E advance procurement funding also includes multiyear requirements through FY 1989. The FY 1989 advance procurement request contains $338.2 million for long lead requirements associated with procurement of the first 12 production V-22 aircraft in FY 1990.

Budget Activity 2: Airlift Aircraft

(In Thousands)

FY 1989 Estimate - $ 7,761
FY 1988 Estimate - $ 5,776
FY 1987 Estimate - $ 98,080
FY 1986 Actual - $221,851

Purpose and Scope of Work

This budget activity provides for the procurement of fleet tactical support aircraft needed to fulfill the Navy's airlift support requirements.

Justification of Funds

The FY 1988 request of $5.8 million is for support of the C-2 aircraft. The FY 1989 request is for C-2 line shut down and support funding.

C-2A (Greyhound) (MYP)

	(Dollars in Millions)			
	FY 1988		FY 1989	
	Qty	Amt	Qty	Amt
Procurement	-	$ 5.8	-	$ 7.8
Advance Procurement		-		-
Initial Spares		-		-

The C-2A is a twin turboprop personnel/cargo transport type aircraft capable of all weather carrier operations. The internal payload configuration is variable, allowing combinations of passengers (28 maximum), medical evacuation litters (12 maximum), aircraft engines, repair parts, and other high priority cargo.

The C-2 aircraft mission is to provide rapid Carrier On-Board Delivery (COD) of fleet essential supplies, repair parts, and personnel to deployed carrier battle groups as required to sustain at-sea operations.

The FY 1988 and FY 1989 budget requests of $5.8 million and $7.8 million are for annualized C-2 support and line close down.

Budget Activity 3: Trainer Aircraft

(In Thousands)

FY 1989 Estimate - $403,466
FY 1988 Estimate - $358,210
FY 1987 Estimate - $ 55,216
FY 1986 Actual - $133,806

Purpose and Scope of Work

The Naval Air Training Command needs aircraft specifically designed for aircrew training in order to provide the Navy, Marine Corps, and Coast Guard with well trained and highly skilled pilots, navigators, and aircrew. Aircraft procured under Budget Activity 3 are used to train students in basic and advanced flying techniques, navigation, instrument flying and numerous other skills required before the transition to high performance fleet aircraft.

Justification of Funds

Procurement and advance procurement funds totalling $358.2 million are requested in FY 1988 for the first production of twelve T-45TS aircraft. In FY 1989, funding is requested for 24 T-45 aircraft and advance procurement funding to continue the program in the ensuing year.

T-45TS (Trainer) GOSHAWK

	(Dollars in Millions)			
	FY 1988		FY 1989	
	Qty	Amt	Qty	Amt
Procurement	12	$ 328.8	24	$362.9
Advance Procurement		29.5		40.6
Spares		13.3		14.1

The T45 TRAINING SYSTEM (T45TS) is comprised of aircraft, simulators, academics, a training integration system (TIS), and contractor logistic support. The T-45A GOSHAWK aircraft is a derivative of the British Aerospace HAWK aircraft. The HAWK is a tandem seat aircraft powered by a single F-405 (Rolls Royce Adour turbofan engine). The T-45A is being adapted to provide the capability for carrier catapult takeoffs and arrested landings. The simulator suite includes both Instrument Flight Trainers (IFT) and Operational Flight Trainers (OFT). Academics include textbook materials, classroom aids and a computer assisted instruction (CAI) system. The TIS utilizes existing hardware and software to provide planning, scheduling, and tracking of training events in order to achieve required training efficiency. The FY 1988 request of $358.2 million is for 12 aircraft and advance procurement for the fiscal year 1989 program. In FY 1989, $403.5 million is requested for 24 T-45A aircraft and advance procurement.

Budget Activity 4: Other Aircraft

(In Thousands)

FY 1989 Estimate - $370,842
FY 1988 Estimate - $369,443
FY 1987 Estimate - $317,545
FY 1986 Actual - $442,251

Purpose and Scope of Work

Aircraft other than those associated with combat, airlift, and training missions are procured under Budget Activity 4.

Justification of Funds

The FY 1988 request of $369.4 million is for three E-6A and three HCS aircraft as well as advance procurement for the FY 1989 E-6A program. In FY 1989 funding is requested for seven E-6A and three HCS aircraft.

E-6A

	(Dollars in Millions) FY 1988		FY 1989	
	Qty	Amt	Qty	Amt
Procurement	3	189.2	7	$332.5
Advance Procurement	-	137.7	-	-
Initial Spares	-	19.9	-	30.5

The E-6A is the replacement for the EC-130 TACAMO aircraft. Its mission is to provide survivable communications connectivity between the National Command Authority and fleet ballistic missile submarines. In FY 1988 $326.9 million is requested for three E-6A aircraft as well as advance procurement funds for the subsequent year. In FY 1989, $332.5 million is requested for the final seven aircraft.

HCS (Helicopter)

	(Dollars in Millions) FY 1988		FY 1989	
	Qty	Amt	Qty	Amt
Procurement	3	42.5	3	$ 38.4
Advance Procurement	-	-	-	-
Initial Spares	-	1.9	-	3.3

The Navy HCS helicopter (to be designated HH-60H) supports a dual primary mission for the Naval Reserve; Combat Search and Rescue (CSAR) and Special Warfare Support (SWS), with secondary missions which require traditional helicopter capabilities. The HCS will meet an urgent operational requirement to support the CSAR/SWS mission in worldwide contingency operations or during mobilization. With the introduction of a CSAR/SWS configured V-22 in the mid 1990's the HCS helicopter will be employed aboard small decks that cannot support the V-22 to expand mission capability and allow greater force employment. In FY 1988, $42.5 million is required for the procurement of three HCS aircraft. The FY 1989 request contains an additional three aircraft at $38.4 million.

Budget Activity 5: Modification of Aircraft

(In Thousands)

FY 1989 Estimate - $ 667,017
FY 1988 Estimate - $ 668,554
FY 1987 Estimate - $1,397,535
FY 1986 Actual - $1,654,997

Purpose and Scope of Work

The Aircraft Modification program provides for improvements to operational capability, maintainability, reliability, and safety and/or extend the service life of Navy and Marine Corps aircraft.

Justification of Funds

In order to fulfill inventory requirements, it has become mandatory to operate many older aircraft beyond their originally programed service life and update their weapon systems so that they remain capable of continued effective operation in new threat environments. To accomplish these two objectives, the Navy pursues service life extension and weapons modernization programs. These conversions often involve complex engineering changes which require a major production effort and are usually accomplished at a contractor's facility, with aircraft inducted into an assembly line for the conversion/modernization programs. A substantial portion of the funds requested in FY 1988 and FY 1989 are for modifications in this category.

The FY 1988 and the FY 1989 budget requests also include funds for incorporation of other modifications intended to enhance the operational capabilities of in-service aircraft or their safety-of-flight, maintainability or reliability. Only essential modifications or changes which are necessary to satisfy the most urgent operational requirements are included in this budget request.

Last year the Secretary of the Navy instituted a management initiative to streamline the incorporation of modifications by phasing and grouping major changes into block upgrade programs by aircraft platform. Goals of the block upgrade initiative include greater configuration standardization, cost savings through more efficient, coherent installation and procurement practices, and less aircraft down time.

Justification for the FY 1988 and the FY 1989 budget request is provided by a narrative summary which provides an overview of the budgeted modifications in each aircraft series. A "back-up" section containing a detailed description of most modifications in the budget request is also included. The installation cost of all modification programs is budgeted in the Operations and Maintenance, Navy appropriation.

The following narrative summary highlights modification requirements by aircraft series and model.

A-3 Series Modification

$1.0 million and $.8 million are requested in FY 1988 and FY 1989, respectively, to fund two modifications to the A-3 aircraft. The first is a planned upgrade of the Fuel Quantity Indicating System ($.5 million in FY 1988 and $.4 million in FY 1989) to correct deteriorated fuel measuring systems. A complete rewiring of the system is needed to ensure that fuel quantity is accurately displayed.

The other modification budgeted is the Attitude Indicator/Standby Gyro upgrade which will combine aircraft attitude and navigation data on one display, reducing pilot visual scanning time and lowering the probability of error during critical instrument approaches. $.5 million in FY 1988 and $.4 million in FY 1989 are requested for this modification.

A-4 Series Modification

$6.1 million in FY 1988 and $3.9 million in FY 1989 is requested for A-4 aircraft modifications. The major modification planned in FY 1988 is the Constant Frequency Generator ($4.1 million) which will decrease maintenance and down time of the Constant Speed Drive System precluding shortage of this essential item.

Also planned are changes to the TA-4 J52-P-6 engine to improve engine availability rates ($2.1 million in FY 1988 and $2.7 million in FY 1989). In FY 1989, $1.2 million is requested for J-52-P-408 Safety and Readiness Improvements which will substantially decrease aircraft downtime due to engine malfunction.

A-6 Series Modification

A total of $133.0 million in FY 1988 and $108.2 million in FY 1989 is requested for various A-6 modifications. The principal modification is the A-6 Block Upgrade for which $118.7 million in FY 1988 and $85.3 million in FY 1989 are budgeted. This major effort will provide a new composite wing, AN/ALR-67 aircraft provisions, digital fuel quantity/vulnerability improvements, HARM missile launch capability, and other essential modifications. The AN/ALR-67 Radar Receiving Set and Countermeasures Warning and Control System are budgeted in the Common ECM account. A detailed discussion of the improvements follows. The composite wing to be incorporated on the A-6E will provide an additional 8,800 hours of wing life. Incorporation of the AN/ALR-67 will provide detection and direction finding (DF) coverage over the entire known radar/missile frequency bands for all types of emissions used for target tracking and missile control. Digital fuel quantity/vulnerability improvements offer increased fuel quantity indicator accuracy and will minimize potential fire hazards. HARM missile integration will provide an improved anti-radiation missile capability.

Funds are requested in FY 1988 ($7.1 million) and FY 1989 ($7.0 million) for the Stand-off Air-to-Ground Weapons modification which provides enhanced Walleye II pods for the A-6E. Continuation of the AN/AAS-33 Turret Sensor Platform access cover addition is also planned in FY 1988 ($5.2 million) and FY 1989 ($5.3 million). The J52-P-8 Safety and Readiness Improvement will provide a substantial increase in availability of the P-3 engine. $1.9 million in FY 1988 and $7.2 million in FY 1989 are requested for this needed improvement.

A-6 Series Modification cont'd

FY 1989 funds ($2.0 million) are requested to begin the A-6E Block Upgrade II. This program will incorporate selected additions to the A-6E to match as closely as possible the capabilities of the A-6F. These improvements include Night Vision Navigation, ARC-182 Radio, NAVSTAR GPS, Improved Avionics, and the ALQ-165 Airborne Self Protection Jammer.

Finally, $1.5 million is requested in FY 1989 for continuation of the Pylon Modification Program which will correct a safety of flight problem by updating wiring in A-6E wing pylons.

EA-6 Series Modification

$21.3 million in FY 1988 and $53.7 million in FY 1989 are requested for EA-6 modifications. The most significant modification planned is the ALQ-99 Pods program ($5.0 million in FY 1988 and $43.7 million in FY 1989). These funds will be used to procure jammer pod components peculiar to the Extended Capability (EXCAP) and to Improved Capability (ICAP) II updates.

Other modifications for the EA-6 include the Structural Improvement modification ($3.2 million in FY 1988 and $3.3 million in FY 1989) which will correct structural deficiencies identified during fatigue testing, the J52-P-408 Safety and Readiness Improvement ($6.9 million in FY 1988 and $6.7 million in FY 1989), and the ICAP II Block Upgrade to upgrade communication systems, improve the fuel quantity system, and add HARM missile capability ($6.2 million in FY 1988).

A-7 Series Modification

The only planned modification for the A-7 are various minor reliability and maintainability improvements. $.1 million is requested in both FY 1988 and FY 1989 to continue these changes.

AV-8 Series Modification

All of the $.1 million and $1.2 million budgeted in FY 1988 and FY 1989, respectively, is requested to continue the Safety, Reliability, and Maintainability program which corrects deficiencies identified during operational testing.

F-4 Series Modification

$.1 million is requested in both FY 1988 and FY 1989 to permit continuation of the F-4S structural fatigue program. These funds will allow the incorporation of various structural improvements identified during fatigue testing which are necessary to ensure safety of flight.

RF-4 Series Modification

$.1 million is requested in FY 1988 to continue airframe structural improvements to permit service life extensions for the RF-4.

F-14 Series Modification

$83.3 million in FY 1988 and $60.4 million in FY 1989 are requested for F-14 modification programs. Of major importance is the F-14A Block Upgrade for which $60.8 million is budgeted in FY 1988. Under this major modification, the F-110 engine will be retrofitted to provide a dependable engine which will have no stall-related throttle restrictions, thus increasing operability and performance. Increased reliability and maintainability are a welcome side benefit from the engine change. An improved radio system, the AN/ARC-182 will provide securable voice communications in several VHF and UHF modes. The AWG-15 system, historically a reliability and maintainability problem, will be redesigned. Once updated, the problems of inadvertent jettison of missiles and auxilliary fuel tanks will be reduced and the system will have the growth capability necessary to easily integrate such future weapons as AMRAAM. Finally, the program will include aircraft provisioning for ALR-67 incorporation.

Various deficiencies identified during aircraft fatigue tests will be corrected in the Structural Improvements Program. $4.5 million in FY 1988 and $5.3 million in FY 1989 are requested to continue this program. Also planned is the Weapons Rails Operational Improvement ($4.0 million in FY 1988 and $8.5 million in FY 1989) which will correct deterioration of weapons rails due to water intrusion and improve PHOENIX weapon on-station test capability.

$8.0 million in FY 1988 and $20.9 million in FY 1989 are requested for the ASW-27C LINK-4A program. An operational capability enhancement, this modification will provide anti-jam protection for the LINK-4A, the digital link used for target data exhange between E-2 and F-14A aircraft. Another communications enhancement is the AN/ARC-182 Radio, ($14.5 million in FY 1989) for installation on those F-14 aircraft which will not be modified under the Block Upgrade.

Two other ongoing modifications budgeted within the F-14 are the MXU-611 Jettison Release program ($4.6 million in FY 1989) and the FLAP/SLAT System improvement ($5.3 million in FY 1988 and $5.1 million in FY 1989). The MXU Jettison release modification will minimize the risk of cartridge blow out due to inadvertant firing of the MXU-611. The FLAP/SLAT Systems improvement will correct several deficiencies in the maneuvering FLAP/SLAT system which is experiencing unacceptably high failure rates.

Finally, $.7 million is budgeted in FY 1988 and $1.6 million in FY 1989 for Direct Lift Safety Control, ($.3 million in FY 1988), AWG-9 Transmitter improvements ($.4 million in FY 1988), and the Television Camera System Track while Scan/Gun Scoring System improvement ($1.6 million in FY 1989).

F-5 Series Modification

Funding for the only F-5 series modification, the Structural Fatigue/Avionics Improvement modification, is requested in FY 1988 ($.1 million) and in FY 1989 ($.1 million). The program will replace or correct known fatigue-sensitive structural components

OV-10 Series Modification

Funds are requested in FY 1988 ($2.0 million) to procure AN/AAR-47 Detection System Provisions. This capability is necessary to protect against incoming enemy missiles. $ 2 million is also requested in FY 1989 for this modification.

Other funding requested for OV-10 modification is the OV-10 Block Upgrade I (A to D) budgeted at $32.0 million in FY 1989. This upgrade will provide OV-10D configured aircraft which will have a Night Observation System capability to locate enemy troops, artillery positions, and armored units during periods of low visibility and at night. Also, $10.7 million is requested in FY 1989 to provide for a service life extension.

F-18 Series Modification

The only funds requested in the FY 1988 and FY 1989 budget are $2.0 million and $1.7 million, respectively, to correct discrepancies identified during testing and by so doing update delivered F-18 aircraft with components in the present configuration of in-production aircraft.

H-46 Series Modification

$29.8 million in FY 1988 and $21.3 million in FY 1989 are requested for two H-46 modifications. The major program is the H-46 Block Upgrade. The program will provide additional fuel capacity to extend flight time, add a navigation capability, and improve aircraft flotation for emergency water landings. $28.1 million in FY 1988 and $19.8 million in FY 1989 are requested for the block upgrade program.

Also planned is the procurement of AN/AAR-47 Missile Warning Set provisions designed to protect the H-46 against surface-to-air and air-to-air missiles ($1.7 million in FY 1988 and $1.5 million in FY 1989).

H-53 Series Modification

A total of $22.7 million in FY 1988 and $19.8 million in FY 1989 are requested for H-53 modifications. Funds are requested to initiate the CH-53E Block Upgrade in FY 1988 ($1.5 million) with continuation in FY 1989 ($11.1 million). This modification will maintain a common CH-53E configuration while increasing safety, survivability, and maintainability by adding machine gun installations, adding inflight hydraulic fluid replenishment capability, improved chip detectors, storm scopes to avoid turbulent weather, and additional cabin egress lighting to enhance safety.

H-53 Series Modification cont'd

Also being initiated in FY 1988 is the AN/AAR-47 Missile Warning Set modification ($1.4 million). This improvement will provide warning of attack by surface-to-air and air-to-air missiles. $.8 million is also requested in FY 1989 for this program.

Also planned is the continuation of the AN/ALQ-157 IR Jammer upgrade which provides protection against IR missiles. $2.6 million in FY 1988 and $.6 million in FY 1989 are requested. The Crashworthy Fuel System improvement is designed to contain fuel spillage during and following crash impact, improving crew safety. $5.8 million is requested in FY 1988, with $3.2 million requested in FY 1989. The AN/ARC-182 Radio will provide state-of-the-art securable voice communication with other fleet aircraft. $9.6 million is requested in FY 1988 and $2.0 million is requested in FY 1989 for this radio upgrade.

The Night Vision Goggles program will enhance low level night operations by improving the ability of the crew to see the terrain during low visibility. $1.3 million in FY 1988 and $1.3 million in FY 1989 are requested to procure goggles and cockpit lighting changes.

The Selectable Strobe Light modification will improve aircraft visibility thus reducing the likelihood of mid-air collision ($.6 million in FY 1988, $.6 million in FY 1989). Finally, $.2 million is requested in FY 1989 to continue the Aircraft Survivability Improvement. The program replaces flight control system rods with new composite material which better withstands ballistic impact, thus reducing the probability of aircraft loss.

SH-60B Series Modification

$1.1 million in FY 1988 and $.7 million in FY 1989 are requested for two modifications for the SH-60B. Incorporation of Filterline Cables to correct identified deficiencies for operation of the aircraft in the expected fleet Electromagnetic Vulnerability environment is requested in FY 1988 ($.8 million) and FY 1989 ($.5 million). Aircraft will be rewired according to production lot configuration. $.3 million in FY 1988 and $.2 million in FY 1989 are planned to initiate the Helicopter Emergency Egress Lighting (HEEL) improvement which increases the chances of successful aircrew emergency evacuation.

VH-60 Series Modification

The only modification for which funding is requested in FY 1989 is the NAVSTAR Global Positioning System ($1.6 million). This system will provide the VH-60 with three dimensional position, velocity, and time information and will interface with communication and navigation equipment on the aircraft.

H-1 Series Modification

A total of $6.8 million in FY 1988 and $35.3 million in FY 1989 are requested for modifications for the H-1 series aircraft. The major modification planned is the AH-1 Block Upgrade. This change will provide improved power and armament capability to meet operational requirements in high altitude, hot temperature environments. Major improvements include incorporation of the T700 engine, the Hellfire Missile System, and an improved crashworthy fuel system. $27.8 million is requested for this vital upgrade program in FY 1989.

Funds are requested to continue Night Vision capability improvements through utilization of enhanced cockpit lighting in conjunction with night vision goggles. $2.9 million in FY 1988 and $.8 million in FY 1989 are requested for the UH-1N, while $1.0 million in FY 1988 and $.5 million in FY 1989 are requested for the AH-1J/T.

Another improvement planned for FY 1989 is the AH-1 Navigation System improvement utilizing the AN/APN-217 Doppler Navigation system and related cockpit instrumentation. This modification will enhance nighttime low level operational capabilities ($4.2 million in FY 1989).

Finally, addition of the AN/AAR-47 Missile Warning Set will increase aircraft survivability by providing early detection of incoming enemy missiles permitting time for evasive maneuvering. $.9 million in FY 1988 and $.8 million in FY 1989 are requested for the UH-1N, with an additional $2.0 million in FY 1988 and $1.1 million in FY 1989 requested for the AH-1T/W aircraft.

H-2 Series Modification

Two modification programs are budgeted for the H-2 series aircraft in FY 1988 and FY 1989 ($19.6 million and $9.9 million, respectively). The H-2 Block Upgrade modification will provide essential mission equipment to enable the LAMPS MK I force to meet the projected threat. Planned improvements include the incorporation of T700 engines, replacement of a 1950's vintage sonobuoy recorder with an acouster processor and display, add the standard 99 channel sonobuoy receiver, incorporate a secure burst data transfer capability, and add a limited 1553 data bus to integrate mission equipment. $17.6 million is requested in FY 1988 and $6.9 million is requested in FY 1989 to continue this essential mission capability improvement.

In addition, $2.0 million and $3.0 are requested in FY 1988 and FY 1989 for the Torpedo Depth Control improvement. This change will permit the aircrew to select torpedo operating modes and initial search depths of the MK 46 ASW Torpedo while in flight, thus increasing the probability of a succesful attack.

H-3 Series Modification

$26.2 million in FY 1988 and $33.2 million in FY 1989 are requested to fund two H-3 modifications. The SH-3H/G/D Service Life Extension Program is designed to extend the service life of the SH-3 past the year 2000 to provide essential CV helo and station SAR mission capability. This program, budgeted at $16.5 million in FY 1988 and $33.2 million in FY 1989, will include extensive rework/replacement of dynamic components, degraded or deteriorated structural components, out-moded flight controls, unreliable emergency floatation gear, and extensive rewiring of the electrical system.

Also requested in FY 1988 is $9.7 million to complete an update of Cockpit and Avionics equipment in the VH-3D Executive Mission helicopters. These aircraft provide world wide executive transportation.

EP-3 Series Modification

$47.0 million in FY 1988 and $21.9 million in FY 1989 are requested to complete the EP-3 Conversion in Lieu of Procurement (CILOP) program. The intent of this program is to extend the airframe service life, standardize mission avionics configuration, and reduce/stabilize aircraft weight and balance.

An additonal $4.5 million is requested in FY 1989 to initiate the EP-3 Sensor Improvement modification. This Congressionally directed program will provide the EP-3 with improved capability to deal with the increasingly complex and dense threat signal environment by improving ESM/Special system frequency coverage, applying state-of-the-art signal exploitation/processing/display techniques, expand direction finding coverage and accuracy, and increase intercept system sensitivity.

P-3 Series Modification

Included in the FY 1988 and FY 1989 budget requests are $127.4 million and $99.1 million, respectively, for P-3 modifications. Of these amounts, $7.3 million in FY 1988 and $5.0 million in FY 1989 are associated with HARPOON related modifications. Provisions for the HARPOON Airborne Command and Launch System include pylon modifications, wing wiring, inter-connecting cables and data processor, logic unit control panel, and other equipment. The Infrared Detecting Systems (IRDS) is an electro-optical surveillance system capable of recognizing and identifying surface targets including submarine periscopes and snorkles under night conditions. The system consists of night imaging sensors and associated electronics and display together with a video recorder. $.8 million in FY 1988 and $2.8 million in FY 1989 are requested for this program.

P-3 Series Modification cont'd

Continuation of the HF Simultaneous Operations (SIMOPS) program is requested with $7.9 million and $11.9 million programmed in FY 1988 and FY 1989 respectively. Incorporation of the AN/ARC-191 transceiver and modification to the aircraft communication switching matrix will permit independent operation of the two HF radios currently incorporated in P-3C aircraft. The AN/APS-137 radar program will be completed in FY 1988 at a cost of $10.4 million. This provides improved periscope detection and long range classification for maritime surveillance. Another continuing program is the classified Special Project Aircraft effort budgeted at $6.7 million in FY 1989.

To improve the P-3C aircraft's ability to detect and counter surface/subsurface-to-air missiles, $.5 million in FY 1988 and $5.6 million in FY 1989 are requested for the Survivability and Vulnerability program. By incorporating the AN/AAR-47 Passive Missile Detection system and the AN/ALE-39 infra-red flare and chaff dispenser, the P-3C will have a self defense capability against infra-red and radar threats. The system will automatically dispense flares, chaff or both upon missile detection. Retrofit of AN/ARC-182 and AN/ARC-187 radios into P-3C aircraft began in FY 1986 and continues through FY 1989. Both of these radio modifications are being funded under the UHF/VHF Communication Update program with $14.5 million being requested in FY 1988 and $14.7 million requested in FY 1989. Incorporation of AN/AQA-7 improvement is greatly needed to meet the submarine threat of the 1990's by enhancing detection capabilities. $10.2 million in FY 1989 is requested for this program.

The P-3 Block Upgrade ($83.7 million in FY 1988 and $40.8 million in FY 1989) improves the acoustic processing system utilizing the Navy Standard AN/UYS-1, the ARR-78 Receiver, and USQ-78 Display and Control. Associated upgrades are required to interface with the P-3 main computer systems. Also requested in FY 1988 is $1.1 million for Omnibus R&M upgrades ($1.1 million in FY 1989), $.3 million in both FY 1988 and FY 1989 for RP-3 modifications, and $.9 million in FY 1988 for the Solid State Syncrophaser.

S-3 Series Modification

Modification to the S-3 series aircraft requires $74.8 million in FY 1988 and $73.9 million in FY 1989. The S-3 Block Upgrade ($60.3 million in FY 1988 and $57.7 million in FY 1989) improves Anti-Submarine Warfare (ASW) capabilities of the acoustic, Electronic Sensor Monitor (ESM) and radar subsystems, adds Electronic Countermeasures (ECM) and Harpoon missile capability and increases useful service life through a redesigned Communication Control group.

Continuation of the Aerial Refueling Store program is also requested. Procurement of this system requires $5.0 million in FY 1988 and $5.3 million in FY 1989. $.6 million is requested in FY 1988 to complete the AN/APS-116 Reliability Improvement program. $5.4 million is requested in FY 1988 for completion of the ASA/82 Tactical Display System. In addition, $3.5 million in FY 1988 and $5.1 million in FY 1989 is required for the MK-46 Presetter Interface.

Finally, $5.9 million is requested in FY 1989 for incorporation of the MK-50 torpedo capability.

E-2 Series Modification

A total of $22.4 million in FY 1988 and $6.6 million in FY 1989 are requested to modify E-2 aircraft. $6.3 million is budgeted in FY 1988 to complete the ARC-182 Radio upgrade which provides securable voice communication for Navy tactical aircraft.

In FY 1988 $10.7 million is requested to continue the Block Upgrade I. This major improvement program includes a 10 KVA Emergency Generator set, microwave refractometer, various safety mods, pylon fixed fairings, a passive detection system, attitude gyro, vertical control surface replacement, TRAC-A Radar Antenna, cockpit EMI reduction, computer recorder reproducer, SPN-41 ILS, and Standard Central Air Data Computer. $6.6 million is requested in FY 1989 to continue this block upgrade program.

Lastly, $5.4 million is budgeted in FY 1988 to initiate the Block Upgrade II which includes procurements of the T-56-A-427 engine and improvements to various radar systems, recorder and control improvements, retrofits JTIDS and CAINS, ASN-139 stability augmentation and anti-jam antenna. The T56-A-427 engine replaces the presently installed T56-A-425 engine which will eliminate the existing Single Engine Rate of Climb deficiency which constitutes a hazard for hot day launches. This modification also will provide improved cruise altitude and cruise speed as well as specific reductions in fuel consumption, increasing operating range and time-on station. Airframe changes will include modified cockpit indicators for fuel flow and turbine inlet temperature, a modified fuel flow transmitter, electrical wiring changes in the nacelle, oil tank modifications and cooling air system changes.

Trainer Aircraft Modification

$1.6 million in FY 1988 and $1.4 million in FY 1989 are requested for various modifications to trainer aircraft. The Trainer Aircraft line includes modifications budgeted for the T-2, TC-4C, T-34, T-38, T-44, and TH-57 series aircraft. Within the account, $.7 million in FY 1988 is requested for T-2 aircraft ARC-159 radios. A TC-4C Update modification is included and $.3 million in FY 1988 and $.3 million in FY 1989 are requested. $.1 million in FY 1988 and $.2 million in FY 1989 are requested for FAA Configuration Updates to bring various trainer aircraft up to FAA standards. Finally, $.5 million in FY 1988 and $.8 million in FY 1989 are requested for other small modifications including T-34C Cockpit Windshield, the T-34C Landing Gear Actuation System, and the T-34C Maximum Operating Weight Improvement Program.

EC-130 Series Modification

One modification is planned for FY 1988 for the EC-130, the Air Force Satellite Communication (AFSATCOM/MILSTAR) Terminal Update which will provide replacement modems for the AFSATCOM terminals ($7.4 million). Continuation of this modification is requested in FY 1989 at a cost of $4.2 million.

Also requested in FY 1989 is $9.2 million for the Consolidated Very Low Frequency subsystem which is designed to replace current transmit and receive terminals. This will allow dissemination of Emergency Action Messages as part of the Minimum Essential Communication Network (MEECN).

C/KC-130 Series Modification

In the FY 1988 and FY 1989 budget requests, $4.6 million and $3.5 million, respectively, are budgeted for C-130 and KC-130 aircraft modifications. A continuation of the Avionics System Improvement Program (Phase II) will procure new VHF communications, navigation equipment, and a modern TACAN. $1.3 million in FY 1988 is requested for this capability enhancement/reliability improvement. The third phase of the Avionics Update ($2.7 million in FY 1988 and $3.5 million in FY 1989) continues as well. Among the modifications included are the incorporation or modification of the solid state propeller synchronization system, compass system, HF secure voice capability, combined altitude radar altimeter (CARA), engine instruments, flight detector, addition of the safety-related Ground Proximity Warning System, and many other avionics equipments. Together, these changes will substantially increase safety, reliability and maintainability. $.3 million in FY 1988 and $.1 million in FY 1989 are requested for improvements to the Cargo Handling System. Two safety related modifications, Strobe Lights and Emergency Exit Lights, are included for $.2 million in FY 1988. Finally, $.1 million is requested in FY 1988 to incorporate the AN/ARC-164 HAVEQUICK Radio.

FEWSG Series Modification

The ability to accurately simulate the known and postulated EW characteristics and tactics of different threats for fleet training is a primary mission element of the Fleet Electronic Warfare Support Group (FEWSG) and its assigned aircraft and equipments. In support of this program, $3.4 million in FY 1988 and $1.8 million in FY 1989 are requested for FEWSG modifications. To provide an ECM device that simulates threat defense ECM systems and several types of threat anti-ship missile seeker systems, $1.2 million in FY 1988 and $1.8 million in FY 1989 are requested for the AN/ALQ-167 and AN/AST-4 Pods.

Also requested is funding to replace obsolete AN/APS-122 Radars on NKC-135A aircraft with the AN/APS-133 replacement radar which is logistically supportable ($.7 million in FY 1988). Also in support of the NKC-135A aircraft is the planned COM/NAV Upgrade which will greatly improve the dedicated high power jamming capability of this aircraft ($1.3 million in FY 1988).

Finally, $.2 million is requested in FY 1988 to incorporate the HP-9826 computer controller to improve avionics control and mission recording aboard the ERA-3B aircraft.

Cargo and Transport Aircraft Modification

A total of $2.2 million is requested in both FY 1988 and FY 1989 for the Cargo and Transport Modification line item which includes modifications budgeted for C-131, C-9, and CT-39 aircraft.

The major modification planned in this category is the continuation of the C-9 Service Standardization program. This modification provides standard TACAN, UHF/VHF radio, cargo door/floor changes, and other minor modifications to standardize the C-9 fleet. $1.1 million in FY 1988 and $1.2 million in FY 1989 are requested for this program.

Cargo and Transport Aircraft Modification cont'd

The C-131 modernization program will provide the Navy's two C-131 aircraft, manufactured in 1954, with essential avionics and airframe updates in compliance with FAA requirements. $.1 million in FY 1988 and $.1 million in FY 1989 are budgeted for this modification.

The C-9 HF Communication Capability and HF Update modification will provide long range two way voice communication, thus providing increased safety during pathfinder missions for the C-9. $.7 million in FY 1988 and $.6 million in FY 1989 are requested.

The FAA Configuration Update enables the Navy to maintain configuration compatible with FAA certified models of aircraft. $.2 million in FY 1988 and $.3 million in FY 1989 are requested to enable the implementation of FAA service bulletins for the C-9, UC-12, and CT-39 aircraft.

Finally, the CT-39 Service Life Extension Program (SLEP) will extend the useful service life from 15,000 missions to 30,000 missions per aircraft ($.1 million in both FY 1988 and FY 1989).

Various Modifications

$1.0 million in FY 1988 and $1.1 million in FY 1989 are requested in the Various Modifications line to fund two modifications. The first is the A-7 Stencil Ejection Seat Parachute 4 Line Release which will allow ejected crewmen to selectively glide/steer their parachutes to avoid obstacles and select a landing site. ($.2 million in FY 1988 and $.2 million in FY 1989).

The second program is the initiation of the NAVSTAR Global Positioning System modification. Funding is for the procurement of user kits to be incorporated in the P-3, SH-60B, E-2C, VH-60, EP-3, H-46, E-6A, H-2 and A-6 ($.8 million in in FY 1988, $.9 million in FY 1989).

Power Plant Changes

This program funds procurement of a large number of primarily small dollar engine modifications. For this purpose, $3.2 million in FY 1988 and $4.6 million in FY 1989 are requested.

Miscellaneous Flight Safety and Operational Necessity Changes

The FY 1988 and FY 1989 budget requests includes $.8 million and $.5 million, respectively, for safety related modifications. This program provides for the procurement of kits to correct flight safety and operational deficiencies which are revealed during fleet operations.

Common ECM Equipment

A total of $16.7 million in FY 1988 and $35.8 million in FY 1989 are requested for Common ECM equipment. The AN/ALQ-162 countermeasures set will provide complementary CW jamming to the operational AN/ALQ-126B pulse jammer for the A-4M, A-7E, and AV-8B aircraft ($4.3 million in FY 1988 and $12.2 million in FY 1989).

The AN/AAR-47 Detection Set provides warning of approaching missiles by radiation detection and initiates flare ejection. Aircraft supported by this system are the CH-53, CH-46, OV-10, and AH-1 ($12.5 million in FY 1988 and $23.6 million in FY 1989).

Common Avionics Changes

$.8 million in FY 1988 and $1.8 million in FY 1989 are requested for one avionics change, the Digital Air Data Converter. This equipment will provide a standardized air data computer for a number of Navy aircraft, and will increase Mean Flight Hour Before Failure (MFHBF) for air data computers from 100 hours to 400 hours, thus improving aircraft readiness rates.

Budget Activity 6: Aircraft Spares and Repair Parts

($ in Thousands)

FY 1989 Estimate - $1,270,957
FY 1988 Estimate - $1,511,913
FY 1987 Estimate - $1,632,215
FY 1986 Actual - $1,156,784

Purpose and Scope of Work

APN Budget Activity 6 funds the procurement of the spare equipment and repair parts necessary to support Navy and Marine Corps aircraft procurement and operating programs. The budgeted funds provide for: (1) initial outfitting and pipeline quantities of reparable spares and repair parts for new and modified aircraft; and (2) buyout of depot level reparable spare parts from the Navy Stock Fund (NSF) by means of the aviation outfitting account in the year of delivery, and a small number of non-stock funded replenishment spares.

Justification of Funds

On 1 April 1981, Navy commenced a test of financing the procurement and repair of non-aviation Depot Level Repairable (DLR) components in the Navy Stock Fund. Prior to this time, procurement of these items was funded in either Weapons Procurement, Navy (WPN) or Other Procurement, Navy (OPN) and repair was funded on a "free issue" basis. Under stockfunding a "buyer/seller" relationship is established and users of non-aviation DLRs pay for what they requisition. The purpose of the test was to determine if readiness would be improved via better material support and economies achieved due to the "buyer/seller" relationship. To date, the test has been extremely successful; therefore, in attempt to attain similar benefits in aviation DLR material support, the Navy is expanding the test to aviation DLRs. The FY 1988/FY 1989 budget incorporates all funding realignments for this test expansion. The expanded test began in April 1985, and is to continue through FY 1993. The following table depicts the FY 1985 through FY 1989 funding profile for the spares account.

($ in Millions)	FY 1986	FY 1987	FY 1988	FY 1989
Initial Spares and Repair Parts	$ 460.5	$ 490.3	$ 553.6	$ 444.4
Replenishment Spares and Repair Parts	696.3	1,141.9	958.3	826.6
Total Aircraft Spares and Repair Parts	$1,156.8	$1,632.2	$1,511.9	$1,271.0

INITIAL SPARES:
The initial spares requirements reflect the number, type and deployment of aircraft being procured and entering the

operating program. The items being procured under the initial spares category are engines, spares for those equipments and parts which have been recently introduced and therefore have no adequate demand history, and spares to be procured from the Navy Stock Fund to field new weapons using peacetime operating rates. Funding requirements for engines and for major avionics and other equipments with a significant unit cost qualifying as initial spares are calculated on an item-by-item basis where possible, considering usage data, failure rates, and engineering estimates based on predicted usage for new items. Requirements for other initial spares and spare parts are determined on a statistical basis, using the same methodology used in calculating major spare equipment requirements.

The following table shows FY 1988 and FY 1989 Initial Spares and Repair Parts support requirements by aircraft model:

($ in Millions)

	FY 1988						FY 1989					
Aircraft Model	Aircraft Quantity	Spare Engines	Contractor Spares	PSE Spares	AOA Initial	Total Initial Spares	Aircraft Quantity	Spare Engines	Contractor Spares	PSE Spares	AOA Initial	Total Initial Spares
A-6E/F	12	24.1	15.5	1.2	.1	41.1	18	12.9	16.3	1.6	19.1	50.0
EA-6B	6	-	.9	1.6	1.0	3.5	9	11.4	.3	.9	5.6	18.3
AV-8B	32	56.4	10.8	4.2	.1	71.5	32	35.2	10.2	1.8	-	47.2
F-14A+/D	12	36.6	23.5	1.6	6.2	68.0	12	12.6	18.0	-	-	30.6
F/A-18	84	95.0	6.6	1.6	4.4	107.6	72	30.0	28.7	.6	8.1	67.4
CH/MH-53E	14	12.6	9.9	-	.1	22.6	14	2.8	9.4	-	3.3	15.5
AH-1W	22	5.2	-	-	.2	5.3	12	-	-	-	-	-
SH-60B	6	11.9	-	.2	6.5	18.6	6	1.9	1	-	8.6	10.6
SH-60F	18	3.0	13.0	.2	4.4	20.6	18	2.6	14.6	-	6.5	23.7
HCS	3	.5	1.4	-	-	1.9	3	.5	.5	-	2.4	3.3
P-3C	0	-	-	-	3.4	3.4	-	-	-	2.4	1.0	3.4
E-2C	6	7.0	13.8	-	6.4	27.1	6	5.9	9.6	-	2.7	18.2
EX COMPETITION	8	-	4.3	-	2.6	6.9	8	-	4.2	-	1.1	5.3
E-6A	3	8.2	11.2	.6	-	19.9	7	8.4	22.1	-	-	30.5
T-45	12	7.8	5.3	.2	-	13.3	24	6.3	7.7	-	-	14.1
Airborne Weapon Spares			8.3	-	-	8.3	-	-	4.1	-	-	4.1
Training Device Pts		-	24.4	-	-	24.4	-	-	23.1	-	-	23.1
CGSE Repair Pts 1/		-	-	2.0	-	2.0	-	-	-	1.3	-	1.3
ATE/SE Pts		-	-	17.1	-	17.1	-	-	-	14.1	-	14.1
Modification Spares					-	70.5						63.8
TOTAL		268.3	148.9	30.6	35.4	553.6		130.5	168.9	22.7	58.4	444.4

Totals may not add due to rounding.

1/ Supports equipment procured in B.A. 7.

Initial spares and repair parts are categorized as follows:

(1) Government Furnished Spare Aircraft Engines - (FY 1988 - $268.3 million; FY 1989 - $130.5 million).
Spare aircraft engine requirements are calculated on an actuarial basis to support the aircraft operating program with a confidence level of 80% to 90% that a spare engine will be on site and ready for issue when required by combat aircraft. Requirements are determined by developing a flying hour program for each type/model aircraft and applying against it engine repair and removal rates to determine total engine procurements. On hand and on order assets are deducted from this gross requirement to arrive at a net procurement requirement. Requirements are thus established for initial outfitting of shore sites and carriers and to fill maintenance repair/overhaul pipelines.

(2) Contractor Spares Support - (FY 1988 - $148.9 million; FY 1989 - $168.9 million)

Contractor furnished spares and repair parts are provided for support of new, sophisticated weapons systems or subsystems during their development and fleet introductory phases until either the Navy Support Date (NSD) or Material Support Date (MSD) is reached, at which time the Navy supply system assumes responsibility for providing all spares and repair parts. Contractor support is designed to preclude procurement of unnecessary or unstable spare parts before usage data is available or aircraft equipment design is frozen. Requirements are calculated by comparing the new weapon system with historical data for a similar/same aircraft and utilizing the Weapon System Planning Document (WSPD) which provides the site activation schedule.

(3) Peculiar Support Equipment (PSE) - (FY 1988 - $30.6 million; FY 1989 - $22.7 million)

The funding requested here provides for repair parts essential to the support (readiness) of PSE end items required for the ground testing, servicing, handling and maintenance of specific weapon systems and their sub-systems. These PSE end items require complete integrated logistic support (ILS), including repair parts, concurrent with delivery in order to adequately support the related weapon systems.

PSE spares funding in FY 1988 and subsequent years provides for contractor augmented support. Requirements are determined by the initial quantity of PSE end items procured, the complexity/cost of the end items, the number of sites to be supported, the proximity/inter-support relationship of shore-based sites, and the period of time between equipment introduction and material support date.

(4) Aviation Outfitting Initial - (FY 1988 - $35.4 million; FY 1989 - $58.4 million)

The funding requested in this section procures spares from the Navy Stock Fund to field new weapons using peacetime operating rates.

(5) Modification Spares - (FY 1988 - $70.5 million; FY 1989 - $63.8 million)

The investment program also includes procurement of initial reparable spares and repair parts to support modification programs financed under APN Budget Activity 5. Requirements include new procurement and/or the modification of spares and repair parts already in the inventory. Requirements are based on the corresponding elements being procured for the aircraft modification program.

REPLENISHMENT SPARES:

Total funding requested for all replenishment spares programs is $958.3 million in FY 1988 and $826.6 million in FY 1989. The replenishment spares element of the budget is made up of: (a) the aviation outfitting support account which provides funding to procure from the Navy Stock Fund afloat and shore activity outfittings required to support fleet operating aircraft, (b) replenishment spares procured at the Naval Air Systems Command headquarters to support executive mission helicopters, interservice support requirements and miscellaneous aircraft systems, and (c) a small number of non-stock funded replenishment spares.

The following table shows the FY 1988 and FY 1989 replenishment spares funding levels by category:

($ in Millions)

	FY 1988	FY 1989
Inventory Control Point Support	$ 6.6	$ 13.0
Aviation Outfitting Support	935.0	791.4
Interservice Support	1.9	2.0
Executive Mission Helicopters	7.8	12.7
F-5/T-38 Aircraft	2.6	2.9
Miscellaneous Headquarters	4.4	4.6
TOTAL	$ 958.3	$ 826.6

The replenishment spares are categorized as follows:

(1) Inventory Control Point (ICP) Support - (FY 1988 - $6.6 million; FY 1989 - $13.0 million)

Spare reparable components are managed by the Aviation Supply Office and the Ships Parts Control Center, which have been assigned program support responsibility for specific aircraft/weapon systems. Spares requirements are calculated by an individual line item stratification technique. The Uniform Inventory Control Point (UICP) stratification requirements are computed utilizing DOD logistics guidance, Navy program planning data, and technical, procurement, and inventory data maintained by the ICP. During stratification, these components are evaluated in terms of inventory on hand and on order, demand experience, projected demand, and outfitting requirements.

(2) Aviation Outfitting Support - (FY 1988 - $935.0 million; FY 1989 - $791.4 million)

This account funds payment at time of delivery for all afloat and shore activity outfittings required to support fleet operating aircraft. These requirements will be procured by the Navy Stock Fund and subsequently "bought out" by

this account. This approach was taken to: a) improve material availability, b) improve asset management, and c) add financial flexibility between rework and procurement of assets. The benefits are an improved logistics support posture and a corresponding improvement in aircraft readiness due to flexibility in the stock fund to either procure new assets or repair existing assets as determined by creation of a buyer/seller relationship in the issuance and return of aviation reparable spares.

(3) Interservice Support (ISS) - (FY 1988 - $1.9 million; FY 1989 - $2.0 million)

Funds are required to reimburse the Army and Air Force for reparable material used during both in house (organic) and service administered commercial overhaul work of Navy aircraft engines, airframes and other reparable components. Material requirements are calculated by the Army and Air Force for the Navy's projected overhaul/rework program and are validated through negotiation between the Naval Air Logistics Center and Army/Air Force representatives.

(4) Executive Mission Helicopters (XM) - (FY 1988 - $7.8 million; FY 1989 - $12.7 million)

Replenishment spares support requirements for the VH-3D, VH-1N and VH-60A Executive Mission aircraft. The Executive mission provides a transportation and evacuation capability for the Chief Executive, Heads of State and other visiting dignitaries. Eleven VH-3D and six VH-1N aircraft operate from one primary site and two auxillary sites. Nine VH-60A aircraft are being procured in FY 1986 to replace the VH-1N aircraft at the end of FY 1989. These helicopters operate for extended periods of time from numerous other locations necessitating selected item packups. Material support requirements are calculated based on inputs from the operating squadron, the aircraft contractor and those peculiar requirements set forth by the Executive Branch. Executive Mission helicopters must have 100% spares support for reparable components. These components are procured so that a spare will be on hand when the component reaches half its projected service life.

(5) F-5/T-38 Aircraft - (FY 1988 - $2.6 million; FY 1989 - $2.9 million)

Funds are required for the procurement of reparable material support from the Air Force for 11 F-5E/F and 6 T-38A aircraft operating at 4 sites. Material requirements are developed by the weapon system manager and NAVAIR based on past spares usage, the projected flying hour program and the number of sites operating the aircraft.

(6) Miscellaneous NAVAIR Headquarters Support - (FY 1988 - $4.4 million; FY 1989 - $4.6 million)

This includes material support requirements for the Fleet Electronic Warfare Support Group (FEWSG), Project Beartrap, Special Project Mission Avionics and VH-3A aircraft support. Spares requirements for FEWSG, Project Beartrap and Special Project Mission Avionics are developed by the Naval Avionics Center (NAC) in conjunction with the operational activities, based on past usage and anticipated system changes. VH-3A spares requirements are developed by the fleet operational squadron and NAVAIR, using historical data to project future material requirements.

Budget Activity 7: Aircraft Support Equipment and Facilities

(In Thousands)
FY 1989 Estimate - $607,605
FY 1988 Estimate - 561,761
FY 1987 Estimate - 617,983
FY 1986 Actual - 691,059

Purpose and Scope of Work

The FY 1988 and 1989 budget requests of $561.8 million and $607.6 million respectively provide continuing vital effort in the five following categories which support aircraft procurement programs:

(1) Common Ground Equipment, which provides funds for Automatic Test Equipment (ATE), Avionics Support Equipment (ASE), various aircraft systems trainers and training aids, the Engineering Data Management Information Control System (EDMICS), and other aircraft ground support equipment including Rapid Deployment Force requirements and Mobile Maintenance Facilities for Marine expeditionary forces.

(2) Aircraft Industrial Facilities, which provides calibration equipment for Navy standards and calibration laboratories. It also provides for capital improvements, modernization, and maintenance of government-owned, but contractor-operated, aircraft-producing industrial plants.

(3) War Consumables, which provides funds for auxiliary fuel tanks, air refueling stores, pylons, and ejector racks and for the modification of these equipments. The new procurement items are of a consumable nature and are related primarily to the number of sorties flown by combat and training aircraft.

(4) Other Production Charges, which provides funds for miscellaneous production support and testing services, aircraft cameras, various equipment for United States Coast Guard aircraft, and aircraft pods and instrumentation packages supporting tactical aircrew combat training and mobile sea range systems.

(5) Special Support Equipment, which provides funds in support of a classified program.

Justification of Funds

Funding requirements for FY 1988 and FY 1989 are outlined in the following table:

	(Dollars in Millions) FY 1988 Funding	FY 1989 Funding
Common Ground Equipment	$436.1	$443.5
Aircraft Industrial Facilities	26.0	27.4
War Consumables	44.0	12.2
Other Production Charges	29.6	43.3
Special Support Equipment	26.1	81.1
Total B.A. 7	$561.8	$607.6

Common Ground Equipment - FY 1988 $436.1 million; FY 1989 $443.5 million

The FY 1988 budget plan for the Common Ground Equipment Program totals $436.1 million. The FY 1989 budget plan is $443.5 million. Funding for the various segments of this program is depicted below and described in subsequent paragraphs:

		FY 1988 Funding	FY 1989 Funding
(a)	Training Equipment	$ 66.9	$ 70.1
(b)	Automatic Test Equipment (ATE)	145.5	128.5
(c)	Aircraft Common Support Equipment	73.3	81.6
(d)	Mobile Maintenance Facilities	15.0	16.5
(e)	Inventory Control Point (ICP) Managed SE	66.5	65.4
(f)	Headquarters Managed PSE	20.5	23.3
(g)	Gas Turbine Compressor Replacement	3.3	3.6
(h)	Avionics Support Equipment	29.3	38.5
(i)	Rapid Deployment Force/Maritime Prepositioned Ships	6.6	6.4
(j)	Aircraft Salvage Equipment	8.3	8.8
(k)	Engineering Data Management Information Control System (EDMICS)	.8	.9
	Total Common Ground Equipment	$436.1	$443.5

Training Equipment

The FY 1988 budget request is $66.9 million and the FY 1989 budget request is $70.1 million. The Training Equipment sub-line item provides funds for acquisition of trainers, training equipment, training parts, GFE/GSE for training purposes, and modifications/changes relating to the above acquisitions. The procurements funded within the Training Equipment sub-line item are limited to: (1) training devices and equipment and related modifications for generalized training programs which provide skills common to more than one weapon system, (2) trainers for out-of-production aircraft, and (3) GFE in support of courses at the Navy Formal Schools. Training on out-of-production aircraft is dependent upon these funds for all acquisitions, specific trainer-peculiar changes, modification/modernization, user-generated changes and replacement. The Training Equipment subline item is broken into two major categories, General Training Equipment and Modification/Modernization of Trainers. The following tables display funding profiles within the Training Equipment subline item:

General Training Equipment

	(In Thousands) FY 1988	FY 1989
Minor Training Aids and Devices	$ 880	$ 710
Air Traffic Control Trainers	12,674	2,531
"A" School Trainers	19,530	15,365
Air Combat Maneuvering Simulator	2,810	3,020
Physiological Trainers	92	0
Total General Training Equipment	$35,986	$21,626

Modification/Modernization of trainers requirements, including GFE for out-of-production weapon systems

Program	(In Thousands) FY 1988	FY 1989
A-3	$ 175	$ 0
A-4	301	0
A-6E	0	3,457
A-7	781	1,603
C-2A	2,750	790
E/K/C-130	880	2,163
F/RF-4	240	430
F-14A	0	8,330
GFE for Formal Schools	2,100	1,593
H-1	404	206
H-2	2,840	7,131
H-3	12,803	5,847
H-46	2,015	1,985
CH/RH-53	825	440
S-3A	3,682	10,014
T-2	151	1,836
T-34	151	916
T-44	151	1,037
TA-4J	150	494
TH-57	522	242
Total Modification/Modernization of Trainers	$30,921	$48,514

ATE (Automatic Test Equipment)

The FY 1988 budget request includes $145.5 million for ATE and the FY 1989 budget request includes $128.5 million for ATE. The ATE segment of the Common Ground Equipment budget line item was established to broaden this category of support equipment acquisition formerly limited to VAST (Versatile Avionics Shop Test). The ATE account funds the procurement of the MINI-VAST and Tailored MINI-VAST, as well as a family of module testers including the Hybrid Tester, the Digital Tester, the Electro-Optics System Test Set (EOSTS), the Radar Communications Tester (RADCOM) and the Navigation Set Test System to support Inertial Navigation Systems in the fleet, and two types of Electronic Warfare Test Sets, the Advanced EW Test Set (AEWTS) and the New EW Test Set (NEWTS).

The six-rack VAST-derived MINI-VAST was designed to accommodate the testing requirements of the advanced avionics systems in the F/A-18 aircraft and other planned avionic systems which incorporate the latest electronic design technology. The new five-rack Tailored MINI-VAST will support the avionics systems of the SH-60B, F-14A, F-14D, S-3A, V-22, and CV Helo. MINI-VAST and Tailored Mini-Vast program objectives are: (1) to provide support as the principal avionics test equipment for F-18, TF-18, A-18, V-22, F-14D, S-3B, CV Helo and SH-60 weapons systems; (2) to maximize commonality with the VAST system; (3) to preclude the development and introduction of new special purpose test equipment, and provide a more cost effective, logistically common and technically superior standard testing system; (4) to reduce the number of avionics technicians required in the avionics shop, and (5) to reduce shipboard avionics support spare requirements.

Acquisition of the NAVAIR standard digital module tester, the Computerized Automated Tester (CAT), is planned to continue consistent with contractor test program development and Fleet support requirements. This tester satisfies the stringent testing requirements of digital shop replaceable assemblies (SRAs) from a broad range of avionic systems which require dynamic testing. The CAT is presently deployed at over thirty operational sites including 12 aircraft carriers. Additional units are required to outfit F-14, E-2, A-6, and A-7 fleet operating sites.

The Hybrid Test Systems (HTS) is required to conduct the complex testing requirements of hybrid (combined analog and digital) and pure analog modules. Acquisition is planned to continue for support of F/A-18, AV-8B and SH-60 sites and to replace obsolete, manual testers in a planned off-load program for A-6, EA-6, E-2, and F-14 modules. This tester complements the CAT by providing broad general purpose support for SRAs.

The Navigation Set Test Station was originally developed to provide support for the AN/ASN-92 Carrier Air Inertial Navigation Set (CAINS) and to replace the 1960-era Peculiar Support Equipment (PSE) that had been acquired to support earlier inertial navigation systems. Design flexibility and growth potential have allowed expansion of the application of this versatile item of ATE to the AN/ASN-130 system. Continued procurement is required to optimize support of the AN/ASN-92, AN/ASN-130 and future advanced INS systems such as the Laser Inertial Navigation Set and AN/ASN-139 system.

The advanced concept of the Advanced EW Test Set (AEWTS) will provide Intermediate level support for the ASPJ on board carriers and at Naval Air Stations until support can be transitioned to the Consolidated Automatic Support System (CASS).

The New Electronic Warfare Test Set (NEWTS) is a semi-automatic intermediate maintenance test set used on various Tactical Air Electronic Warfare avionics Weapons Replaceable Assemblies to support Naval Air Stations, carrier (CV) deployments and Reserve requirements.

The Electro Optical Systems Test Set (EOSTs) is a semi-automatic Intermediate level maintenance test set that provides fault isolation, verification and alignment of various Tactical Air Electronic Warfare avionics Weapons Replaceable Assemblies. This system fulfills carrier (CV), Naval Air Rework Facility (NARF), and Naval Air Maintenance Training Detachment (NAMTRADET) requirements.

System modification is necessary to maintain technological currency, enhance support, adjust workload and incorporate necessary reliability and maintainability improvements in major, out-of-production items of Automatic Test Equipment (i.e., EOSTS and VAST). Modifications to EOSTS are necessary in order to provide for continued support of A-6, S-3, A-7, P-3, and OV-10 electro-optical systems without sacrificing operational readiness. Similarly, VAST stations, which currently support over 150 weapons replaceable assemblies in the S-3, E-2, F-14 and A-7 aircraft, require improvement and enhancement in order to remain capable of satisfying the more complex testing requirements of new modified airborne avionics.

Aircraft Common Support Equipment

The Aircraft Ground Support Equipment element under the Common Ground Equipment line item provides for the initial outfitting of Common Support Equipment under NAVAIR inventory and technical management. These Support Equipment (SE) end items are required for ground testing, servicing, handling, and maintenance of aircraft and their systems. SE items acquired under this budget line item include aircraft propulsion test systems, mobile air conditioners and generators, and aircraft handling equipment.

A comprehensive acquisition plan has been developed for each FY 1988 and FY 1989 SE requirement item to: (1) ensure that the equipment is ready for procurement by the budget year; (2) to determine the type of procurement action to be initiated (multi-year, etc.); (3) verify the inventory objective, and; (4) ensure the consideration of required integrated logistic support elements.

The Support Equipment (SE) which will be procured are determined through one of the following processes:

1. The direct result of the SE RDT&E Program (these are items required to support advanced aircraft systems).
2. Reprocurement of current SE required to respond to meet outfitting shortages.
3. Improved versions of current SE required to support expanded airborne equipment capabilities or advanced airborne equipment (electrical servicing equipment, ground air conditioners, etc).
4. Major modifications of existing SE.
5. Equipment developed to improve the capability of the Fleet and/or to improve safety (aircraft towing equipment, non-destructive inspection equipment, etc).

To meet requirements in a timely manner, budget authority for $73.3 million in FY 1988 and $81.6 million in FY 1989 is requested.

Mobile Maintenance Facilities

Budget authority of $15.0 million in FY 1988 and $16.5 million in FY 1989 for Mobile Maintenance Facilities is requested. This program provides for the acquisition of mobile facilities and related equipment to support Marine Corps Expeditionary Force and Navy contingency/mobilization aircraft and weapon system maintenance operations. The concept is to provide rapid-response mobility by the use of relocatable maintenance shelters. Execution of the Marine Corps Aviation mission is dependent on a highly mobile and functionally independent aircraft maintenance support capability.

The basic equipments procured under this subline item are the container (Van), air conditioner, heat pump, 60-Hertz electric generator, running gear and static converter 60 Hz to 400 Hz.

Inventory Control Point (ICP) Managed Support Equipment (SE)

ICP Managed SE funds the procurement of end items of Peculiar Support Equipment (PSE) for out-of-production weapon systems, and all Common Support Equipment (CSE) under the budget, procurement and inventory control of the Aviation Supply Office (ASO), Philadelphia, and the Ships Parts Control Center (SPCC), Mechanicsburg, PA. PSE and CSE end items are normally introduced into the Fleet thru NAVAIR development and initial procurement. When design is completed and procurement packages become available, the items are sent to ASO or SPCC inventory management to be funded under this sub-line. Currently, ASO manages some 10,500 individual repairable SE end items whereas SPCC manages some 500 items, primarily cryogenic and armament equipment.

The budget requirements for this element are categorized as follows:

a. Increased quantities of out-of-production aircraft PSE and CSE required for site outfittings.
b. Replacement out-of-production aircraft PSE and CSE resulting from wear-out and attrition.
c. Increased quantities of out-of-production aircraft PSE and CSE required for allowance augmentation.

Sample SE end items procured under this sub-line item include aircraft jacks, aircraft tow bars, hoisting slings, armament handling equipment and maintenance platforms.

To support this program, budget authority of $66.5 million in FY 1988 and $65.4 million in FY 1989 is requested.

Headquarters Managed Peculiar Support Equipment

This budget subline provides funds to replace certain in-use Peculiar Support Equipment (PSE) assets that are now marginally effective due to obsolescence or to the unavailability of associated logistics support. Of late 1960 and early 1970 vintage, the applicable vendors no longer manufacture the PSE items or associated repair parts. Alternate sources are not available. As a consequence, a replacement item that is logistically supportable must be designed and produced. In addition, this subline provides completion of the design and initial production of (1) certain PSE items that for various reasons were not funded during the production phase of the weapon systems and (2) modification of PSE to extend its useful service life.

Budget authority of $20.5 million in FY 1988 and $23.3 million in FY 1989 is requested for this program.

Gas Turbine Compressor (GTC) Replacement

The FY 1988 budget requests $3.3 million and the FY 1989 budget requests $3.6 million to finance the acquisition of new enclosures for gas turbine powered airstart equipment, and the equipment necessary to support the new gas turbine engines previously procured. This new GTC equipment will replace old mobile airstart units at all Navy/Marine Corps activities with a highly reliable, easily maintained airstart unit that provides compressed air for starting main aircraft engines.

Avionics Support Equipment

The FY 1988 budget request of $29.3 million and the FY 1989 budget request of $38.5 million will provide for the acquisition of several common avionic equipment items: AN/USM-406(v) Countermeasures Test Set; AN/ASM-607(v) Memory Loader Verifer Test Set; AN/AWM-94 Bomb Rack Test Set, Nuclear Weapons Release Test Set; AN/APM-XXX Radar Beacon Test Set; Pressure Temperature Test Set; Combat Identification System Test Set; Instrument Repair Test Sets, AN/UPN-XXX Transponder Test Set, Cable Repair Program and Common Data Link Test Set.

The AN/USM-406(V) is an electronic warfare countermeasure test set used in organization-level maintenance support of a variety of EW equipment. The Memory Loader Verifier is a micro-processor controlled mass storage unit utilized to load and verify Operational Flight Programs into aircraft processor/computer units. The Swept Frequency Measurement Test Sets will provide the capability to troubleshoot RF Transmission lines and perform distance-to-fault measurements. The AN/AWM-94 Bomb Rack Test Set is an organizational level test set which is used to test aircraft weapon release systems. The test sets automatically execute a series of tests which validate the operational status of the equipment system under test and will identify the location of any faults detected. The Nuclear Weapons Release Test Set measures dynamic voltages, resistances, and current; conducts complete Aircraft Monitor and Control (AMAC) system analysis; does its own self-check; and performs nuclear station functional release checks. This set is the only means available of checking the unique signal generator circuitry required on modern nuclear-capable aircraft. It can also be programed to accommodate nuclear check-outs of all Navy aircraft with the use of the sixteen independent programable modules already designed into the unit. The AN/APM-XXX provides rapid test at the organizational level of the Automatic Carrier Landing System (ACLS) requiring a single technician for operating. The test set will be state-of-the-art, portable (less than 25 lbs.) and battery powered. It will combine both functions of the AN/APM 230B and SM658 into a single enclosure with greater accuracy, reliability, and ease of operation. The Combat Identification System Test Set is a new lightweight handheld test set which tests the operation of aircraft-installed transponder systems by means of detecting and analyzing radiated signals. This test set will be used to test transponder systems which are installed in all Navy and Marine aircraf and will replace the existing AN/APM-378 test set. This test set will be allocated in multiple quantities to every Navy/Marine Organizational level maintenance activity.

The Pressure-Temperature Test Set is a portable test unit designed for both flight line and intermediate maintenance used in checking performance characteristics of aircraft airspeed, altimeter, and engine pressure ratio system. This test is also used for total temperature simulation and as a pilot-static reference source to provide the input test pressures required by the Standard Central Air Data Computer.

The Instrument Repair Test Sets will provide airborne instrument repair capabilities at Navy/Marine Intermediate level maintenance activities provides the requirement to test/verify instrument performance subsequent to repair actions. This test set will provide the necessary stimulus/measurement capability to exercise/verify the performance of airborne instruments.

The Radar Beacon Test Set will provide rapid tests at the organizational level of the Automatic Carrier Landing System (ACLS) requiring a single technician for operation.

The Transponder Test Set will be used to test transponders which are installed in all Navy and Marine corps aircraft and will replace the existing AN/UPM-137 test set. This test set will be allocated to every Navy/Marine Intermediate level maintenance activity.

The Cable Tester will provide cable repair capability at Navy/Marine Intermediate Level Maintenance activities.

The Common Data Link tester is an Operational Level tester which will be used to verify ASW, Link 4, and Link 11 data link systems. The Common Data Link Tester is a replacement for peculiar data link test equipment such as the An/UKM-3, AN/ASW-25B and other data link systems.

Rapid Deployment Force/Maritime Prepositioned Ships

The FY 1988 budget request of $6.6 million and the FY 1989 budget request of $6.4 million will procure additional Support Equipment for upgrading Marine Amphibious Brigades 1, 2, and 3. This support equipment (SE) will support aircraft configuration changes, and replace/modernize superceded SE.

Aircraft Salvage Equipment

The budget request of $8.3 million in FY 1988 and $8.8 million in FY 1989 will provide for the replacement of existing NS-60 aircraft crash cranes which have been deployed for over 12 years aboard the Navy's CV class carriers, and the HCC-30/50 crash cranes which have been deployed for 13 years aboard LHA/LPH/LPD class ships. During this time, the weight and size of deployed aircraft have increased, such that they exceed the maximum lifting/mobility requirements of these cranes. Aircraft crash removal is seriously debilitated creating an unacceptable operational readiness impact. Further, the aging NS-60 and HCC 30/50 cranes have experienced declining reliability, maintainability and supportability which have seriously degraded their operational effectiveness. A conventional four-year multiyear production contract was competitively awarded in FY 1985 for 34 CV/AACC crash cranes with deliveries commencing in FY 1987.

Engineering Data Management Information Control Systems (EDMICS)

The FY 1988 budget request for EDMICS is $.8 million and the FY 1989 budget request is $.9 million. The EDMICS program is designed to provide more timely and complete engineering data and drawings to the Naval Air Rework Facilities (NAVAIREWORKFACs) for support of weapons system, component maintenance and overhaul, and to the Aviation Supply Office (ASO) for competitive procurement support. The EDMICS program is structured in four phases with phases I, II, and III as in-house efforts at the Naval Air Technical Services Facilities (NAVAIRTECHSERVFAC). EDMICS Phases I through III provide the capability of automatically determining if requested drawings are contained in file, and, if requested, provide a complete printout of all lower level drawings associated with the drawings which have been requested. EDMICS Phase IV which is also funded in this budget line, will provide automated retrieval and reproduction of engineering data and drawings. The concept of Phase IV involves the electromechanical handling, manipulation, reproduction, digital scanning, and electronic transmission of the actual graphic data (microfilm copy of the drawings). Since the primary reason reported by auditing agencies for non-competitive procurement at ASO is lack of technical data, acquisition of this equipment will alleviate this problem by providing rapid access to the massive technical data bank located at the Naval Air Technical Services Facility (NATSF), Philadelphia.

Aircraft Industrial Facilities - FY 1988 $26.0 million; FY 1989 $27.4 million

The FY 1988 budget request for Aircraft Industrial Facilities is $26.0 million and the FY 1989 budget request is $27.4 million. These funds are required for the following categories of equipment:

	(Dollars in Millions) FY 1988	FY 1989
Calibration Equipment	$21.9	$17.8
Contractor Facilities	4.1	9.6
Total Aircraft Industrial Facilities	$26.0	$27.4

Calibration Equipment

The calibration program provides the fleet with a means to ensure that Support Equipment (SE) is operational and accurate. Calibration is the process of periodically comparing the performance of items of SE to that of equipment of known and greater accuracy. This accuracy must be traceable to the National Bureau of Standards. Calibration includes any adjustments to the SE that may be required.

Calibration funds are used to procure calibration standards and ancillary equipment required to support aviation SE. Approximately 100 fleet "I" level calibration laboratories, 30 Navy Calibration Laboratories (Depot) and five Standards Laboratories are supported through these procurements. Standards are used to initiate capability, expand capabilities, improve efficiency of production, reduce manhours and to replace obsolete equipments.

Contractor Facilities

The contractor facilities program provides for capital maintenance, modernization, improvements, emergency repairs, and fire protection for government-owned contractor-operated, aircraft-producing industrial plants and for replacement/restoration of government-owned production equipment in use on Navy programs. Facilities management contracts require that the government fund capital maintenance projects as required. These projects apply to Naval Weapons Industrial Reserve Plants (NWIRPs) at Bloomfield, Conn.; Dallas, Texas; Bethpage, New York; Calverton, New York; and St. Louis, Missouri.

War Consumables - FY 1988 $44.0 million; FY 1989 $12.2 million

The War Consumables program funds procurement of those airborne equipments which can be suspended, released, or jettisoned from aircraft. The FY 1988 and FY 1989 requests provide for procurement of the following items:

	FY 1988		FY 1989	
	Qty	Amt	Qty	Amt
Air Refueling Stores	150	$41.4	0	$ 0
Air Refueling Stores Support		2.0		0
Hi-Density Storage External Fuel Tanks		.0		11.6
Production/Engineering Support Total		.6		.6
Total		$44.0		$12.2

Items are bought in this account to satisfy inventory objectives which are determined by such factors as the numbers and types of using aircraft, the mission of aircraft, and attrition and pipeline requirements.

Other Production Charges - FY 1988 $29.6 million; FY 1989 $43.3 million

The FY 1988 budget request for Other Production Charges is $29.6 million. The FY 1989 budget request is $43.3 million. These funds will provide the following:

(a) $13.6 million in FY 1988 and $16.6 million in FY 1989 for Government-Furnished Equipment (GFE) production support which includes testing services, production data reviews, technical publications, repair of damaged or defective GFE, and procurement of Navy Stock Fund items necessary for fleet installation of technical directives (i.e., minor modification kits and other hardware changes).

(b) $6.4 million in FY 1989 for procurement of certain Navy avionics equipment for installation in Coast Guard aircraft.

(c) $1.5 million in FY 1988 and $6.7 million in FY 1989 for procurement of reconnaissance and other aerial cameras.

(d) $1.2 million in FY 1989 for procurement of instrumentation packages used by aircraft participating in Mobile Sea Range exercises.

(e) $12.5 million in FY 1989 for pods for the Tactical Aircrew Combat Training System (TACTS).

(f) $14.5 million in FY 1988 for engine blade/vane support equipment.

Special Support Equipment - FY 1988 $26.1 million; FY 1989 $81.1 million

Funding requested in FY 1988 and FY 1989 will be used to support a classified program.

COMPARISON OF FY 1987 PROGRAM REQUIREMENTS AS REFLECTED IN FY 1987
PRESIDENT'S BUDGET WITH FY 1987 PROGRAM REQUIREMENTS SHOWN IN FY 1988/89 PRESIDENT'S BUDGET

(In Thousands of Dollars)

	Total Program Requirements per 1987 Budget	Total Program Requirements per 1988/89 Budget	Increase (+) or Decrease (-)
Combat Aircraft	$ 6,884,002	$ 5,857,888	-$1,026,114
Airlift Aircraft	99,718	98,880	- 838
Trainer Aircraft	56,374	55,216	- 1,158
Other Aircraft	324,204	317,545	- 6,659
Modification of Aircraft	1,427,213	1,397,535	- 29,678
Aircraft Spares and Repair Parts	1,856,145	1,632,215	- 223,930
Aircraft Support Equipment and Facilities	656,644	617,983	- 38,661
Reimbursable Program	1,500	1,500	-
TOTAL FISCAL YEAR PROGRAM	$11,305,800	$ 9,978,762	-$1,327,038

EXPLANATION BY BUDGET ACTIVITY

Combat Aircraft (-$1,026.1 million)

The changes in this budget activity are primarily associated with the following Congressional action including specific net changes of -$920.7 million and application of general reductions of $105.4 million:

Program	Quantity	Amount	Program	Amount
A-6E		-$28.7	AH-1T	-$ 15.4
A-6E Adv. Proc.		- .7	AH-1T Adv. Proc.	+ 14.7
EA-6B		- 4.1	SH-60B	- 6.8
EA-6B Adv. Proc.		- .4	SH-60B Adv. Proc.	- .4
AV-8B		- 40.1	SH-60F	- 21.0
AV-8B Adv. Proc.		- 1.6	SH-60F Adv. Proc.	- 3.1
F-14A		- 31.4	P-3C	- 6.4
F-14 Adv. Proc.		- 2.6	P-3C Adv. Proc.	- 1.9
F/A-18	- 36	-731.8	E-2C	+ 126.2
F/A-18 Adv. Proc.		-265.0	SH-2F	- 1.1
CH-53E		- 4.5		-$1,026.1

Other actions include a proposed DD 1415 Reprograming Action moving $93.2 million from the P-3 Advance Procurement account to the P-3C procurement program to meet support costs and line closedown expense and a transfer of $4.5 million and $5.0 million from the EA-6B and AV-8B programs, respectively, to the C/MH-53E Advance Procurement account for adequate funding of multi-year procurement requirements.

Airlift Aircraft (-$.8 million)

Adjustment in this budget activity results from application of a portion of the general Congressional reduction to the C-2A program.

Trainer Aircraft (-$1.2 million)

Change in this budget activity was due to application of a part of the general Congressional reduction to the T-45A advance procurement program.

Other Aircraft (-$6.7 million)

Congressional changes in this budget activity include the following proportionate share of general Congressional reductions:

Program	Amount
E-6A	-$4.7
E-6A Adv. Proc.	- 1.5
VH-60A	- .5

Modification of Aircraft (-$29.7 million)

Congressional action resulted in a net $29.7 million decrease including application of general reductions. Adjustments by program are listed below:

Program	Amount	Program	Amount	Program	Amount
A-4 Series	-$ 5.1	SH-60 Series	-$ .1	Cargo & Transport A/C Series	-$ .1
A-6 Series	- 6.0	H-1 Series	- 13.5	EC-130 Series	- 3.7
EA-6 Series	- .8	H-2 Series	+ 31.5	C/KC-130 Series	- .1
F-4 Series	- .1	H-3 Series	- .8	FEWSG	- .4
F-14A Series	- 3.8	EP-3 Series	- 1.0	Various	- .1
OV-10 Series	- 10.1	P-3 Series	- .8	Power Plant Changes	- .1
F-18 Series	- .1	S-3 Series	- 15.3	Comm. ECM. Equip.	- 28.3
H-46 Series	- 19.9	E-2 Series	- .9	Comm. Avionic. Eq.	+ 5.5
H-53 Series	- .5	Trainer A/C Series	- .1	360° RADAR	+ 45.0
					-$29.7

Additional decreases accomplished through below threshold reprograming actions total $5.6 million and include $.8 million from the A-7 Series due to deletion of the I^2R Maverick provisions; $4.1 million from the F-4 Series because of cancellation of kit buys of AN/APR-43 and AN/ALQ-162 provisions and the Follow on Structural Fatigue program; and $.7 million from the SH-60 Series due to less than anticipated cost of Filterline Cable kits.

The above are offset by the following increases: $1.4 million to the RF-4 Series for final costs of publications, flight test and engineering support on the APQ-99 Update, Formation Lights and KS-53 Camera programs ($.8 million), increased cost of the Follow On Structural Fatigue program and other minor adjustments ($.6 million); $1.4 million to the A-4 series primarily due to acceleration of AN/APR-43 And AN/APN-194 provisions; $.8 million to the C/KC-130 series for cost increases on the Avionics System Improvement Programs Phase I and II; and $2.0 million to the Flight Safety account to fund several approved emergent flight safety changes.

Aircraft Spares and Repair Parts (-$223.9 million)

The change in this budget activity results from specific Congressional reductions of $29.4 million to Initial Spares and $36.7 million to Replenishment Spares, $123.6 in an undistributed reduction to the spares account, and application of $34.2 million of the Congressional general reduction.

Aircraft Support Equipment and Facilities (-$38.7 million)

The reduction due to Congressional action in this budget activity was $38.7 million including specific action of $25.7 million and application of $13.0 million in general Congressional reductions.

COMPARISON OF FY 1987 FINANCING AS REFLECTED
IN FY 1987 BUDGET WITH FY 1987 FINANCING AS
SHOWN IN FY 1988/89 BUDGET

(In Thousands of Dollars)

	Financing Per FY 1987 Budget	Financing Per FY 1988/89 Budget	Increase (+) or Decrease (-)
Program Requirements (Total)	$11,305.800	$ 9,978,762	-$1,327,038
Program Requirements (Service account)	(11,304,300)	(9,977,262)	(- 1,327,038)
Program Requirements (Reimbursable)	(1,500)	(1,500)	(-)
Less:			
Anticipated Reimbursements	1,500	1,500	-
Reprogramming from prior year budget plans			
Unobligated balance available from prior year to finance new budget plans			
Transferred from other accounts			
Add:			
Unobligated balance available to finance subsequent year budget plans			
Transferred to other accounts			
Appropriation	$11,304,300	$ 9,977,262	- 1 327,038

EXPLANATION OF CHANGES IN FINANCING

The decrease in program requirements is the result of Congressional reductions of $1,327,038,000 from the request to the amount appropriated including distribution of general Congressional assessments of $182,000,000.

COMPARISON OF FY 1986 PROGRAM REQUIREMENTS AS REFLECTED IN FY 1987
PRESIDENT'S BUDGET WITH FY 1986 PROGRAM REQUIREMENTS SHOWN IN FY 1988/1989 PRESIDENT'S BUDGET

(In Thousands of Dollars)

	Total Program Requirements per 1987 Budget	Total Program Requirements per 1988/1989 Budget	Increase (+) or Decrease (-)
Combat Aircraft	$ 6,299,596	$ 5,770,486	- $529,110
Airlift Aircraft	233,829	221,851	- 11,978
Trainer Aircraft	134,617	133,806	- 811
Other Aircraft	549,599	442,251	- 107,348
Modification of Aircraft	1,936,621	1,654,997	- 281,624
Aircraft Spares and Repair Parts	1,259,111	1,156,784	- 102,327
Aircraft Support Equipment and Facilities	762,305	691,059	- 71,246
Reimbursable Program	1,000	13,969	+ 12,969
TOTAL FISCAL YEAR PROGRAM	$11,176,678	$10,085,203	-$1,091,475

EXPLANATION BY BUDGET ACTIVITY

Combat Aircraft (-$529.1 million)

Reductions under Public Law 99-177 totalled $316.5 millon in this budget activity with additional decreases of $156.8 million due to revised economic forecast repricing. In addition, a DD1415 reprograming action transferred $27.0 million from the F/A-18 program to the Operation, and Maintenance, Navy appropriation.

Other decreases include the following: $40.7 million from the AV-8B program primarily due to reduced support requirements; $1.4 million, $.1 million, $.7 million, and $.6 million from the advance procurement accounts of the AV-8B, EA-6B, F/A-18 and E-2C aircraft respectively because of lower longlead requirements than originally envisioned; and $4.0 million, $9.4 million, $.6 million and $2.6 million from the F-14A, F/A-18, SH-60B, and the P-3C programs respectively due to contract savings and changes in support requirements.

Increases accomplished through below threshold reprogramings include $6.3 million to the A-6E program to cover various engineering change proposals and a share of the AN/ARC-182 second source effort; $5.2 million to the A-6E Advance Procurement account for non-recurring effort to accommodate the new wing; $9.5 million to the C/MH-53 Advance Procurement account to fund additional termination liability on the multiyear procurement contract; and $10.3 million to the E-2C program for increased support requirements.

Airlift Aircraft (-$12.0 million)

Decreases of $3.2 million and $4.6 million derived from Gramm-Rudman-Hollings action and revised economic projections respectively. A decrease of $5.1 million from the C-2A program due to a change in support requirements was partially offset by increases of $.3 million and $ 1 million to the UC-12 and C-20 programs to fund support requirements and an increase of $.5 million to the C-2A Advance Procurement to cover the cost of GFE.

Trainer Aircraft (-$.8 million)

Public Law 99-177 decreases of $6.8 million and revised economic pricing reductions of $4.2 million from this budget activity were partly counterbalanced by an increase to the ADVERSARY Aircraft of $10.2 million to fully fund program requirements.

Other Aircraft (-$107.3 million)

Action in this budget activity reflects loss of $100.4 million when the appropriated KC-Tanker Conversion program failed authorization; a $22.4 million reduction pusuant to P.L. 99-177; a decrease of $1.0 million due to economic forecast revisions; and increases of $16.4 million to the E-6A program for Fleet Trainer procurement and $.1 million to the E-6 Advance Procurement account for minor adjustments.

Modification of Aircraft (-$281.6 million)

Reductions under Public Law 99-177 totalled $95.6 million in this budget activity with a reduction of $88.3 based on repricing from a changed economic forecast.

Below threshold reprograming increases total $16.1 million and include the following: $.7 million to the A-4 series to add the KY-58 Secure Voice ($.3 million), cover increased cost on the J-52 Safety and Readiness Improvement ($.2 million) and other miscellaneous adjustments ($.2 million); $3.8 million to the AV-8 series primarily for acceleration of the Shipboard Inertial Alignment program ($.3 million) plus additional requirements for the Safety, Reliability and Maintainability program and the Digital Engine Control System change ($3.5 million); $1.6 million to the RF-4 series for AN/APR-43 provisions; $3.4 million to E-2 series for increased ARC-182 radio cost; $.4 million to the C/KC-130 series primarily for cost growth on the Fuel Quantity Indicator System modification; $5.9 million to the FEWSG account for additional AN/ALQ-167 and AN/AST-4 Pods; and $.3 million to the Cargo and Transport Aircraft account for the C-9B Executive Transport Upgrade.

More than offsetting the above were decreases of $113.8 million for the reasons enumerated below: $13.0 million from the A-6 series for contract savings and rephasing of requirements into the Block Upgrade which begins in FY 1987; $8.3 million from the cancelled I^2R Maverick in the A-7 series account; $4.4 million from the F-4 series due to favorable pricing and cancellation of the trainer requirement on the AN/APR-43 and AN/ALQ-162 provisions; $.1 million of minor adjustments in each the F-8 and H-53 series modification lines; $1.3 million due to rephasing of the F-5 Structural Fatigue program; $.3 million from the F-18 series resulting from more definitive pricing for Correction of Discrepancies; $.7 million from the SH-60 series due to repricing of the Filterline Cable program; $4.0 million from the H-2 Composite Main Rotor Blade and $8.9 million from the P-3 Update III both based on contract negotiations lower than anticipated in the budget; $.9 million from the S-3 series resulting from deletion of the Pitch Trim Actuator and APU Pump Holder programs; $.2 million, $2.0 million, $.3 million and $2.1 million from the Trainer Aircraft series, Power Plant Changes, Flight Safety Changes, and Common Avionics Changes respectively due to minor repricing and more definitive statement of requirements; $1.5 million due to slippage of incorporation of the KG-84 in the EC-130 series; $65.7 million from the Common ECM account resulting primarily from cancellation of the AN/APR-39 requirement ($13.3 million) and rephasing of AN/ALQ-126B, AN/ALR-67 and AN/ALQ-162 procurements ($52.4 million).

Aircraft Spares and Repair Parts (-$102.3 million)

Changes in this budget activity include a reduction of $65.6 million pursuant to P.L. 99-177; application of $4.7 million on a DD1415 reprograming action to the Operations and Maintenance, Navy appropriation; and $32.0 million of reductions from a myriad of changes due to a combination of contract savings and rephasing of requirements.

Aircraft Support Equipment and Facilities (-$71.2 million)

Reductions under P.L. 99-177 totalled $37.5 million in this budget activity and additional decreases occurred of $15.4 million from Common Ground Equipment due to manifold contract savings and changed or rephased requirements in ground support and training equipment; $8.7 million and $7.7 million from the Aircraft Industrial Facilities and War Consumables programs resulting from rephasing calibration and facilities requirements and favorable contract pricing on the Air Refueling Stores; and $1.9 million of minor adjustments in Other Production Charges.

Reimbursable Program (+$13.0 million):

The increase in the reimbursable program reflects actual orders $13.0 million more than originally budgeted.

COMPARISON OF FY 1986 FINANCING AS REFLECTED
IN FY 1987 BUDGET WITH FY 1986 FINANCING AS
SHOWN IN FY 1988/89 BUDGET

(In Thousands of Dollars)

	Financing Per FY 1987 Budget	Financing Per FY 1988/89 Budget	Increase (+) or Decrease (-)
Program Requirements (Total)	$11,176,678	$10,085,203	-$ 1,091,475
Program Requirements (Service account)	(11,175,678)	(10,071,234)	(- 1,104,444)
Program Requirements (Reimbursable)	(1,000)	(13,969)	(+ 12,969)
Less:			
Anticipated Reimbursements	1,000	13,969	- 12,969
Reprograming from prior year budget plans			
Unobligated balance available from prior year to finance new budget plans		254,944	- 254,944
Transferred from other accounts			
Add:			
Unobligated balance available to finance subsequent year budget plans			
Reduction pursuant to P.L. 99-177		547,608	+ 547,608
Transferred to other accounts		132,086	+ 132,086
Appropriation	$11,175,678	$10,495,984	- 679,694

EXPLANATION OF CHANGES IN FINANCING

The decrease in the appropriation of $679,694,000 is reflected in the congressionally mandated Gramm-Rudman-Hollings reduction of $547,608,000 and transfer from the appropriation of $132,086,000 including $100,386,000 that was appropriated but failed authorization and a DD 1415 reprogramming action moving $31,700,000 to the Operations and Maintenance, Navy appropriation. Additional changes in financing are an increase to the Reimbursable account of $12,969,000 due to higher actual collections than originally anticipated, and an expected balance of $254,944,000 in the Direct program resulting from repricing based on revised economic forecast.

Status of Aircraft Modification Programs
FY 1987 Modification of Aircraft
Programs as of 30 November 1986

(Thousands of Dollars)

Program	Appropriated 1/	Reprograming	Total Program Value	Total Obligations	Total Expenditures
A-3 Series	1,470	-	1,470	-	-
A-4 Series	14,569	-	14,569	111	-
A-6 Series	373,200	-	373,200	250,020	-
EA-6 Series	38,578	-	38,578	7,363	-
A-7 Series	908	- 790	118	-	-
AV-8A	1,459	-	1,459	-	-
F-4 Series	4,779	-	4,779	-	-
RF-4 Series	1,365	-	1,365	-	-
F-14A	183,454	-	183,454	-	-
F-8 Series	93	-	93	-	
F-5 Series	954	-	954	-	-
OV-10	57,400	-	57,400	-	-
F-18 Series	5,745	-	5,745	-	-
H-46 Series	47,993	-	47,993	-	-
H-53 Series	22,176	-	22,176	-	-
H-1 Series	44,915	-	44,915	-	-
H-2 Series	35,736	-	35,736	-	-
H-3 Series	37,773	-	37,773	1,021	-
EP-3 Series	46,553	-	46,553	248	-
P-3 Series	37,568	-	37,568	-	-
S-3A	200,099	-	200,099	-	-
E-2 Series	40,508	-	40,508	-	-
SH-60B	3,275	-	3,275	-	-
Cargo & Transport A/C	4,989	-	4,989	-	-
Trainer A/C	6,606	-	6,606	-	-
EC-130 Series	12,891	-	12,891	-	-
C/KC-130 Series	6,715	+ 790	7,505	1,336	-
FEWSG	16,860	-	16,860	-	-
Various	3,708	-	3,708	55	-
Power Plant Changes	2,686	-	2,686	-	-
Misc. Safety Changes	928	-	928	-	-
Common ECM Equipment	69,549	-	69,549	-	-
Common Avionics Changes	27,033	-	27,033	-	-
360° RADAR	45,000	-	45,000	-	-
TOTAL B.A. 5	1,397,535	-	1,397,535	260,154	-

1/ Includes distribution of undistributed reductions.

Status of Aircraft Modification Programs
FY 1986 Modification of Aircraft
Programs as of 30 November 1986

(Thousands of Dollars)

Program	Appropriated 1/	Reprograming	Total Program Value 2/	Total Obligations	Total Expenditures
A-3 Series	4,815	- 948	3,867	1,436	67
A-4 Series	10,272	+ 120	10,392	6,469	114
A-6 Series	230,654	- 46,374	184,280	134,464	25,346
EA-6 Series	37,036	- 4,683	32,353	22,415	1,210
A-7 Series	7,569	+ 526	8,095	6,809	439
AV-8A	8,123	+ 9,116	17,239	16,561	106
F-4 Series	3,712	- 270	3,442	100	-
RF-4 Series	1,358	+ 1,426	2,784	1,168	10
F-14A	158,752	- 12,149	146,603	103,050	456
F-8 Series	96	- 96	-	-	-
F-5 Series	1,614	- 1,431	183	-	-
OV-10	47,246	- 39,788	7,458	5,073	698
F-18 Series	15,458	- 2,846	12,612	9,811	289
H-46 Series	134,995	- 3,482	131,513	123,960	822
H-53 Series	33,329	- 3,322	30,007	15,510	452
SH-60	1,569	- 809	760	719	-
H-1 Series	70,105	- 14,659	55,446	3,606	549
H-2 Series	32,498	- 11,488	21,010	9,273	657
H-3 Series	92,786	- 14,865	77,921	36,880	11,932
EP-3 Series	36,975	- 2,456	34,519	30,148	3,364
P-3 Series	389,023	- 37,308	351,715	144,905	5,232
S-3A	281,452	- 19,115	262,337	183,542	3,785
E-2 Series	56,876	+ 155	57,031	44,658	210
Trainer A/C Series	4,983	- 1,355	3,628	731	82
Cargo & Transport A/C	6,842	- 1,864	4,978	1,503	34
EC-130 Series	5,981	- 1,770	4,211	100	-
C/KC-130 Series	10,948	- 301	10,647	7,005	65
FEWSG	21,757	+ 4,804	26,561	16,239	1,091
Various	4,611	- 499	4,112	2,307	1,768
Power Plant Changes	8,002	- 3,054	4,948	83	16
Misc. Safety Changes	4,159	- 2,504	1,655	1,516	98
Common ECM	189,098	- 75,028	114,070	2,096	643
Common Avionics	23,927	+ 4,693	28,620	9,862	119
TOTAL B.A. 5	1,936,621	-281,624	1,654,997	941,999	59,654

1/ Includes application of congressional general reductions.
2/ FY 1986 Column of FY 1988/89 President's Budget.

Status of Aircraft Modification Programs
FY 1985 Modification of Aircraft
Programs as of 30 November 1986

(Thousands of Dollars)

Program	Appropriated 1/	Reprograming	Program Value	Total Obligations	Total Expenditures
A-3 Series	5,701	+ 147	5,848	5,114	2,202
A-4 Series	21,465	+ 5,749	27,214	22,209	5,498
A-6 Series	149,395	+25,920	175,315	160,078	84,439
EA-6 Series	79,635	- 3,854	75,781	48,986	15,696
A-7 Series	74,993	+ 2,643	77,636	64,349	24,776
AV-8A	15,382	- 930	14,452	10,481	33
F-4 Series	3,335	+ 688	4,023	3,854	2,139
RF-4 Series	6,246	- 762	5,484	1,629	623
F-14A	241,748	+ 4,921	246,669	220,894	141,340
F-8 Series	175	- 175	-	-	-
F-5 Series	1,527	- 825	702	529	276
OV-10A	47,030	-10,219	36,811	28,647	13,144
F-18 Mods	27,319	- 6,263	21,056	16,457	5,227
H-46 Series	148,534	-11,855	136,679	121,938	48,194
H-53 Series	44,444	-10,835	33,609	22,892	4,085
SH-60 Penguin Mods	11,700	-11,700	-	-	-
H-1 Series	78,084	-35,174	42,910	36,532	6,727
H-2 Series	13,596	+ 2,137	15,733	13,124	6,895
H-3 Series	104,653	- 1,684	102,969	94,086	53,552
P-3 Series	177,477	-12,446	165,031	141,925	59,004
S-3	155,553	- 1,707	153,846	148,449	42,718
US-3A (COD)	2,447	- 2,447	-	-	-
E-2 Series	54,612	- 6,127	48,485	46,391	14,706
Trainer A/C Series	7,883	+ 3,311	11,194	7,085	4,037
T-57	745	- 20	725	-	-
EC-130 Series	27,688	- 2,011	25,677	18,822	7,698
C-130 Series	14,081	+ 262	14,343	12,155	492
FEWSG	34.548	+ 4,532	39,080	38,590	11,540
Cargo Transport A/C	4,386	- 1,860	2,526	1,508	224
Various	13,173	- 2,563	10,610	8,444	7,654
Power Plant Changes	10,454	- 3,501	6,953	3,310	458
Misc Safety Changes	6,955	- 818	6,137	4,184	377
Common ECM Equipment	120,243	- 70,092	50,151	40,830	8,406
Common Avionics Changes	25,187	+ 3,722	28,909	26,890	5,968
TOTAL B.A. 5	1,730,394	-143,836	1,586,558	1,370,382	578,128

1/Includes distribution of the general modification reduction